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ABSTRACT

In August of 1978 the Southern Rural Development Center (SRDC) published an annotated bibliography on Education Needs Projection and Rural Development; this synthesis paper follows that bibliography and is intended to relate some of the useful applications derived from the survey of the literature. Five papers are included in the synthesis. The first, "Education Needs Projection and Rural Development", is by Dr. Gerald C. Wheelock, Chairman of the SRDC Functional Network; it summarizes the network's findings as it documented the extent and specific direction of trends in collaboration between educational complexes and rural communities. The second paper, also by Wheelock, deals with the state of the art in forecasting education needs for Southern rural development. "Rural Futures Development Strategy" describes the development of a successful, planned change model that actively invites students, teachers, administrators, and citizens of the community in determining what, how, and when something might be done to improve the educational opportunities in the community. The fourth paper presents an historical overview of an industry service program of vocational education that has been operating in Mississippi for about five years. The final paper bears the title, "Communication Strategies in Public Policy Decision Making: An Analysis of Processes in Major Needs Assessment Models from a Systems Point of View". (DS)

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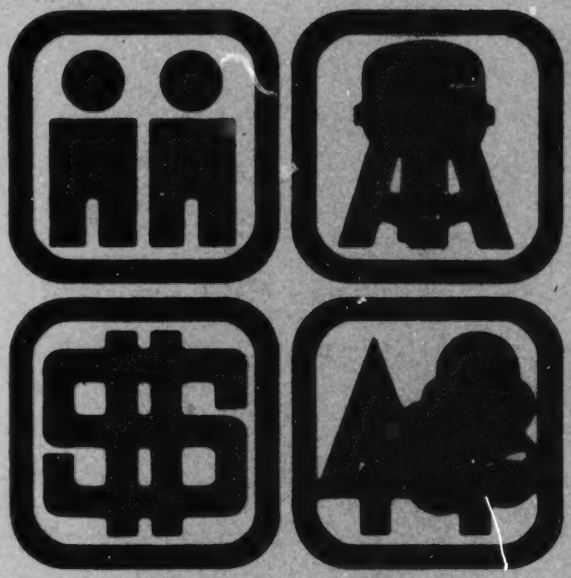
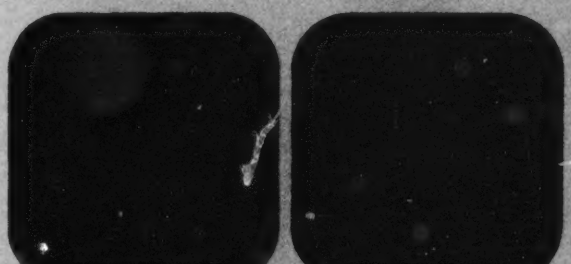


SYNTHESIS

Educational Needs Projection and Rural Development



Rural Development Series No. 7
Southern Rural Development Center

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FOREWORD

Under the sponsorship of the Southern Rural Development Center, 10 teams of researchers and educators throughout the Southern region have devoted the past year to a synthesis of timely and practical research in selected areas of interest.

These 10 Functional Networks, each under the leadership of a Center Associate, have prepared larger annotated bibliographies of important citations uncovered in their investigations. These synthesis papers follow the bibliographies, and are intended to relate the useful applications to be derived from their survey of the literature.

More than just summary documents or reports, these synthesis papers can serve as a starting point for rural development planning and projects from the national to the local level. They assess the current state of knowledge and pinpoint techniques and methods for application of these findings.

This paper was prepared by the Network on Educational Needs Projection and Rural Development under the leadership of Dr. Gerald C. Wheelock at Alabama A&M University. The Network's bibliography and additional copies of this paper are available from the Southern Rural Development Center.

William W. Linder

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A Synthesis

EDUCATIONAL NEEDS PROJECTION AND RURAL DEVELOPMENT

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This synthesis is the product of an SRDC Functional Network with chairmanship at the Alabama A & M University. A contractual agreement between the SRDC, the Alabama A & M University and the Cooperative State Research Service of the U.S. Department of Agriculture provided for this participation and cooperation.

One of a series of syntheses prepared by research Functional Networks for the Southern Rural Development Center, Mississippi State, Mississippi.

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EDUCATIONAL NEEDS PROJECTION AND RURAL DEVELOPMENT

Why a network on educational needs projection and rural development? Traditionally, rural governments have spent more money on education than on any other function, and education has served rural families well by preparing their children for modern careers. However, until recent years, and particularly since World War II, rural communities have been losing large numbers of their educated young people due to continuous depopulation.

If rural communities are to recover some of the human resources they have sent into the larger community and to retain more of those they continue to produce, a concerted effort to match rural educational needs and resources to rural development efforts is required. This network has surveyed educational and rural development literature to document the extent and specific direction of trends in collaboration between educational complexes and rural communities. A summary perspective of the network's findings is presented here.

Trends in Education Needs Projection Methodology

Educational research, whether it addresses needs assessment, planning, experimentation, or evaluation, is pervasive. From 1965 to 1975 over 30,000 dissertations which deal with educational topics have been written. However, only 80 of these titles have been identified as methodological applications specialized to predict, project or forecast public educational futures and needs (1). Also, of several hundred dissertations dealing with public school problems of 17 Southern states and Puerto Rico, only six as indicated by their titles, specialized in prediction or forecasting applications for a state or locality within a state (Table 1; See reference 1 for discussion).

Even though forecasting methodologies are seldom used in dissertation research, the project has observed several trends which provide the basis of a forecast as to the future of educational needs projection in the region.

- Among the 80 dissertations identified as using forecasting methodologies, opinion surveys prevail over statistical or quantitative (demographic or economic) methodologies. Only 15 of these dissertations used statistical models while 65 were some variations of opinion surveys (Table 2; See 1).

- Since 1965, the use of opinion survey models has grown rapidly compared with a modest increase in statistical models (Table 2; See 1).

- Southern based dissertations accounted for 73 percent of the 15 statistical models but only 28 percent of the 65 opinion survey models (Table 2; See 1).

Table 1: Scalogram of Dissertation Abstract DATRIX II Search by State Name and Two Additional Sets of Descriptors: (1) School(s) and (2) Selected Analytical Terms

	Selected Analytic Terms						
State	EdVo[1]	ReCo[2]	As[3]	DeInIm[4]	Pr[3]	Scale Score	Number of Dissertations[5]
Texas	1	1	1	1	0	4	48
Alabama	1	1	1	1	0	4	22
North Carolina	1	1	1	1	0	4	22
Tennessee	1	1	1	1	0	4	19
Mississippi	1	1	1	1	0	4	17
Missouri	1	1	1	0	0	3	44
Maryland	1	1	1	0	0	3	22
Florida	1	1	1	0	0	3	21
Kentucky	1	1	1	0	0	3	19
Arkansas	1	1	1	0	0	3	18
Georgia	1	1	1	0	0	3	14
Oklahoma	1	1	0	0	0	2	14
Louisiana	1	1	0	0	0	2	13
Virginia	1	1	0	0	0	2	12
Puerto Rico	1	0	0	0	0	1	7
Delaware	1	0	0	0	0	1	6
South Carolina	1	0	0	0	0	1	4
West Virginia	1	0	0	0	0	1	4
Dissertations	97	144	36	43	6		326

Code:

Re = relate, related, relating, relation, relates
Ed = educational
Vo = vocational
As = associate, associates, associating, associated, association
Co = compare, compares, compared, comparing, comparison
In = influence, influences, influenced, influencing
Im = impact, impacting, impacts, impacted
De = determine, determined, determines, determination, determining
Pr = predict, predicts, predicting, predicted, prediction, predictable, projection, delphi, forecast

[1] 1 = one or more dissertation titles containing "educational or vocational" plus school(s) and state name in title
0 = no such dissertation

[2] 1 = four or more dissertations with indicated analytic terms
0 = three or fewer dissertations

[3] 1 = two or more dissertations with indicated analytic terms
0 = none or one dissertation

[4] 1 = three or more dissertations with indicated analytic terms
0 = two or fewer dissertations

[5] DATRIX II Search Complete from 1965 to 1975

Table 2: Types of Public Educational Needs Projection Models Employed by Dissertation Writers by Region of Degree (Ph.D. or Ed.D) Granting Institution

REGION	TYPE OF NEEDS PROJECTION MODELS	
	Opinion Survey[1]	Statistical Model[2]
Southern Universities		
1965-68	0	1
1969-72	4	5
1973-75	14	5
	18 (28%)	11 (73%)
Non-Southern Universities		
1965-68	4	0
1969-72	13	2
1973-75	30	2
	47 (72%)	4 (27%)

[1] *"Opinion Surveys"* of education needs cover all dissertation titles that include descriptors such as Delphi, needs assessment and needs projections with reference to public shcools and education (K-14) and that without statistical modeling, deal with expert and lay opinion.

[2] *"Statistical Models"* of educational needs cover dissertation titles that include descriptors such as prediction, projection or forecast with reference to public school (K-14) needs and that use statistical modeling procedures such as time-series extrapolations or causal modeling of cross-sectional data.

[3] *"Southern Universities"* are those Ph.D. and/or Ed.D. degree granting institutions located in the 17 Southern states included in Table 1.

- Since 1969 outside the South and since 1972 at Southern universities, the greater use of opinion survey forecasting in educational dissertations has been spurred by the adoption of an interactive survey technique, Delphi (Table 3; See 1).

- Regardless of the region of the country, Delphi tends to first be used to sample opinions of educators. However, after the first four years of experience in non-southern universities, 10 of 13 Delphi dissertations have sampled opinions of community respondents. A similar trend may be expected at Southern universities. Through 1975, however, only one of six similar Southern dissertations used community based samples (Table 4; See 1).

- Authors of dissertations in the Southern region tended to use Delphi more frequently with national or regional samples, whether they be educators or community based, than did non-southern dissertation writers. The latter used local samples more often (Table 4; See 1).

Implications of Trends for Educational Needs Forecasting in the Region

The prevalence of statistical forecasting of educational needs in the Southern states is in part due to a more centralized administration of public schools. Properly so, states in the region are more concerned with quantifiable issues such as enrollment rates including kindergartens, integration, teacher-student ratios, and percent with a high school education (2). Also, the proportion of the nation's public school enrollment attending Southern schools is growing. All of these trends suggest that the South's proportion of the nation's total public school expenditure must be growing too. In 1974, however, region wide public educational expenditures per child were about the same as they were in the late 1960's, 80 percent of the national average (3). This record compares unfavorably with the only study of regional level projections found in the literature. It projected by 1975, an increase to 82.7 percent of the national average (4). In short, the record on educational expenditures per child shows no growth in the Southern region relative to the rest of the country.

Through increased efficiency, effectiveness of the region's schools might be increasing even though relative expenditures aren't. Traditional state level funding formulas are typically based on number, not the quality of a program. If numbers fall, teaching units are cut. To provide an efficient educational system which is also responsive to changing needs in a no-growth environment, some teachers have to be retrained or replaced, and existing resources have to be reallocated.

Table 3: Type of Opinion Survey Methodology Employed by Dissertation Writers on Public Educational Needs Projection Topics by Region of Degree (Ph.D or Ed.D) Granting Institution

REGION	TYPE OF OPINION SURVEY[1] Delphi Surveys[2]		One-Time Surveys[3]	
Southern Universities				
1965-68	0		0	
1969-72	0		4	
1973-75	8		6	
	8	(23%)	10	(33%)
Non-Southern Universities				
1965-68	0		4	
1969-72	7		4	
1973-75	20		12	
	27	(77%)	20	(67%)

[1]A sub-analysis of "opinion surveys" in Table 2

[2]*"Delphi Surveys"* include dissertations based on administering multiple interactions of an opinion survey of education needs or futures (K-14), usually with feedback, to a selected sample.

[3]*"One Time Surveys"* include dissertations based on single administrations of opinion surveys regarding various education needs or futures (K-14) to a selected sample.

Table 4: Sample Compositions (Community vs. Education) Used in Dissertations Employing Consensus Formation Methodology (Delphi with Feedback) by Region of Degree Granting Institution

REGION	SAMPLE COMPOSITION[1]	
	Education Only	Education and Community Respondents[2]
Southern Universities		
1965-68	0	0
1969-72	0	0
1973-75	5	1
	5 (42%)	1 (7%)
Non-Southern Universities		
1965-68	0	0
1969-72	4	3
1973-75	3	10
	7 (58%)	13 (93%)

[1]Theses covering general public education topics only. Nine theses using Delphi on narrowly specialized concerns, thus requiring expert knowledge, are not included.

[2]"Community Respondents" include business or industry subsamples as well as subsamples of the general public.

Table 5: Type of Opinion Survey Methodology by Type of Sample Base Employed for Dissertation Writers on Public Education Needs Projection Topics by Region of Degree (Ph.D. or Ed.D) Granting Institution (1965 to 1975)

SAMPLE BASE BY REGION	TYPE OF OPINION SURVEY	
	One-Time Survey	Delphi
Southern Universities		
National	-	4
State and/or	6	4
Local	4	
TOTAL	10	8
Non-Southern Universities		
National	-	3
State and/or	9	24
Local	11	
TOTAL	20	27

To determine if increased efficiency as well as increased effectiveness is being accomplished side by side in an apparent no-growth environment, local level trend studies of student performance scores are needed. Such studies are rare. Hopefully, controversy that has inhibited performance studies will turn to informed dialogue grounded in open analysis of the trends.

In summary, to complement the new series of national projections and digests of educational statistics (5,6) and to measure relative progress of the region, more regional and local projections compared with actual performance are needed by policy makers and the public. With one-third of the nation's youth living in the South, and half of these in non-metro districts, there is no doubt that the relative educational well-being of the region's youth should be a major concern of local problem solvers.

Implementing Rural School Linkages for Rural Development

The observed trend toward more opinion based research and participatory type decision making and the use of techniques such as Delphi (7) suggest a need for a much closer relationship between the researcher and the users of research. If the high level of local participation in decision making observed in non-southern states is to be observed in the Southern region, it may be due to wider recognition that the fate of centrally determined policies remains at the local level with principals, teachers, students and parents. If a trend toward more local participation in educational planning is to be established, there are several ways it may be facilitated. Useful suggestions documented in the literature and directed specifically to rural communities are highlighted here.

In Rural Schools as a Mechanism for Rural Development, the authors cite four collaborative elements which are emerging as essential to rural development strategies: (a) increased problem solving and knowledge utilization capacities in regional, state and Federal organizations which serve local areas; (b) stronger linkages between the levels so that a two-way exchange can occur; (c) research and development as an ongoing process which will continuously enable individual communities and organizations to improve their development capacity; and (d) a revised organizational arrangement that makes use of the capabilities of public and private educational and research institutions (8).

All of these elements imply intensive interaction between problem solving activities on the one hand and knowledge production and utilization activities on the other.

The authors of Micropolitan Development show how rural schools can be financed more equitably and operated more efficiently. They observe that those problems are often best understood and corrected at the local level by able school administrators (9). This conclusion implies that regional, state and Federal levels could be of greatest service to

the local level by encouraging local innovation. Because of centralized funding systems in most states of the region, this is easier said than done.

Two working models of how local initiative is encouraged in the face of centralized funding of education are presented here. One example comes from outside the region and one from the Southeast. The four collaborative elements cited above, which combine problem solving with knowledge production activities, are incorporated in these models.

The Rural Futures Development Strategy of the Northwest Regional Educational Laboratory, with headquarters in Portland, Oregon, is perhaps the most highly productive rural educational research effort described in the literature. It involves the community directly in implementing research; therefore, the community benefits directly from the research effort. Key elements of this research strategy (10, 11) are the community process facilitators and the school-community groups (SCG). The process facilitators are staff persons trained in community decision-making and problem-solving processes. The SCG is created by the school board and they work hand-in-hand. Since it is consciously selected to represent the diverse "opinion groups" in the community, the SCG may differ with the board and the administration. Through the process facilitator, the SCG acquires new community needs-assessment, decision-making, and problem-solving skills, while providing communication links to the community. With a focus on process, under the eye of the school board, an ever-expanding proportion of the community participates effectively in community development processes.

In the second case, a similar community approach to vocational education planning is emerging in a few "sunbelt" states. The Research and Curriculum Unit for Vocational Technical Education at Mississippi State University has built on comparative research of community job creation, job training and job placement efforts (12), community action (13), and experiences in three states (Oklahoma, Florida, and Mississippi) with state-level industrial training services programs (14). While the state level programs in these and other states addressed the needs of industry directly, a major defect was observed: relations between the new industry and the local community, in particular the local school, were left undeveloped.

As a remedy, the three states' collaboration has resulted in a series of instructional modules. They are conveniently organized to provide local "industry services leaders" with detailed technical support on some 33 tasks essential to successful ope[illegible]f an industry services program (15). Once local vocational directors look upon themselves as "industry service leaders," or once they have hired "industry service leaders," these instructional modules are helpful. Within the overall objective of successful matches in the job market, the tasks detail ways to utilize and collaborate with a selected few specific state and local agencies, industries and trainees. While vocational directors, industrial services leaders, and their communities are profiting directly from this research into community resources, they are developing community process skills for self-sustained growth. As with the Rural Futures Development Strategy, local communities will benefit directly from the research process.

Education in Rural America (16) provides an inspiring, although untried, model for "school-based community development corporations." Even more compelling than in the industry services model, a provocative case is made for the joint development of vocational education, job placement and job creation activities under school board authority. From the perspective of rural community growth that directly serves the existing local community and not just new industries, collaboration among these three activities appears mandatory.

Finally, another reviewer (17) cautions that there has been almost no research in the communication aspects of participatory or community-based models of goal setting and other needs assessment processes. The several problem-solving and decision-making methodologies reviewed are designed to encourage inputs from the poor and minority groups of all kinds, including students. Whether or not they do--and if not, why not--merits much more study than can be found in the literature.

Related Resources for Educational Needs Projection and Rural Development

First, a vocational director or school board interested in developing an industrial services program should go to its state vocational research and curriculum unit. However, not all states are promoting industrial services programs at local levels. In most states the initiative rests with the local school district. This is where the initiative should be. Within the educational hierarchy, the communities, especially those in the rural South with emerging industry, have the most at stake in establishing a local industrial program.

A second institutional resource that should be tapped is Title V of the Rural Development Act of 1972. A Title V office is located at each state's land grant institution. Helping people improve their communities is the main emphasis of the Title V projects in the South. For example, Alabama and Georgia programs center on working with local industrial development boards in attracting industry. An aggressive industrial services program offered through the local school would make it possible for any county to offer a more attractive package.

Thirdly, universities involved in training and accrediting vocational teachers are natural resources for communities wishing to establish an industrial services program. For example, an Alabama A&M University vocational educational unit, (18) by consulting with vocational directors and advisory councils in rural counties with emerging industrial complexes, is sharing its experience in industrial services and, at the same time, gaining more experience. Selected conference and survey techniques are utilized that, in turn, provide local communities experience with additional problem-solving tools. Through helping vocational directors and advisory councils more fully conceive of their jobs as that of producing an industrial service program, universities with technical vocational education units provide an additional service to local communities.

A fourth important resource which vocational directors may look to is local private or quasi-private organizations which are working to promote human resource development and attract industry. An example of

one such organizatôn is the Minority Peoples' Council on the Tennessee-Tombigbee Waterway (19). The council's activities have focused on providing mechanisms to link an inexperienced but capable local labor force to a rapidly emerging construction and industrial complex. Such local interest groups thrive on the belief that a properly organized industrial services program could provide the local labor force with the skills it needs to compete with more experienced labor migrating from other regions.

Once local advisory councils and vocational directors have marshalled these several resources, they will have accumulated a diversified set of experiences and a track record in providing services to industry. In turn, they will be better equipped to make their case through the traditional administrative and legislative channels.

The Universities' Role

Judging by voids in the literature, universities which serve rural society by training and legitimizing much of its local leadership need to be more responsive to the changing needs of that leadership. For example, universities which train teachers often don't get involved in community-school cooperation. But the leaders they are training will certainly need to know how this cooperation works and how they can help it.

Universities which train teachers can do this by making available more community related curriculum including approaches to school-community research on everything from vocational counseling and job creation efforts in the local community to the study of local sources of revenue and the financing of education. Traditional educational needs projection processes can also be complemented by teaching a variety of techniques, including Delphi, which facilitate both community wide determination of goals and their achievement. These techniques are perhaps particularly suited to rural areas where schools and communities are traditionally closely linked.

In short, the universities might better serve the rural community by emphasizing training of rural leadership in community process skills as basic to their formal role of accrediting and legitimizing rural leadership.

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FORECASTING EDUCATION NEEDS FOR SOUTHERN RURAL DEVELOPMENT: STATE OF THE ART*

By
Dr. Gerald C. Wheelock

While the intent in this research review was to be unbiased, a second reading has revealed a tone of advocacy. It is only fair to say, in spite of the opinion of Governor friends in other regions, that from the perspective of the clientele of Southern rural education this paper might more properly be titled, "We may be in the sun belt, but there is still plenty of shade here in the woods."

A tone of advocacy is appropriate. As has been said before, "Needs without advocates will not be considered." Such a tone will hopefully invite dialogue and, perhaps, better research than is currently available. And no doubt, more enlightened research reviews will result.

Nationwide, enrollments in primary and secondary public schools have leveled off and even declined from 46 million in 1971 to less than 45 million now. Thus, if investment in public education through high school is to at least remain constant (in real dollars), it will have to be justified in terms of improved quality or equal opportunity defined in equal expenditures rather than in terms of greater numbers of students. This is in spite of the fact that the relationship between cost and quality in education is exceedingly difficult to document. What is clear, at least to the President's Commission on School Finance, is that parents with the means to do so usually choose schools which cost more to operate than the schools they reject.[1]

Therefore, if the dual objectives of improving quality and providing equal opportunity for all are to be implemented at the same time, the real dollar investment in public education almost certainly will have to increase.

Recommendations to Reduce Inequalities in School Finance

The President's Commission, viewing inequality in school financing as a major impediment to providing equal education opportunity countrywide, makes three major recommendations which, ostensibly, would increase the investment in rural education in the South. Specifically, the commission recommends the following: relief to unequally taxed property owners in the form of increased state level collection of revenues and funding of public schools; increased emphasis on early childhood education with more Federal aid to include low-income children; that Title I funds now being provided to states and

*This paper was prepared as a part of the Education Needs Projection and Rural Development Project, Alabama A & M University and Southern Rural Development Center Cooperating for the Rural Sociology Section of the Southern Association of Agricultural Scientists Annual Meeting, Sheraton-Biltmore, Atlanta, February 7, 1977.

local school systems for the education of children from low-income families be allocated according to the relative concentrations of these children within each school system. Southern rural school districts with typically poorer tax bases and larger concentrations of low income families would presumably benefit from implementation of all three recommendations.[2]

However, an analysis of the potential impact of these three recommendations would probably show that rural Southern schools would gain relatively little.

The most expensive of the three recommendations, state aid, is proposed to cost roughly three times as much in Federal incentives as the other two combined. Yet, Southern states and rural districts probably stand to profit the least of any in the U. S. from implementation of the state aid recommendation. First, property taxes which are those to be equalized are not the major source of education revenues in the South. Second, in spite of proportionately larger Federal contributions, 15 of the 17 Southern states already collect more of their education revenues at the state level than do the median states, (Kansas, 40.1% and California, 42.4%, 1973-74). Only two Southern states, Missouri and Virginia, exceed the national average (50.1%) in education revenues collected from local levels.[3]

Finally, full state aid at uniformly low levels may be worse for education than less equal local financing. While Commission studies show no relationship between state financing and state regulation of public education, and even a positive correlation ($r = .39$) between state financing and local innovation, the top ranking state aid state had one of the three lowest innovation scores. This state, North Carolina, was the only Southern state in the sample of 10.[4]

This finding of high state aid and low innovation, treated as a single exception to an otherwise positive relationship by the President's Commission, is suspected to be the rule in the South. For example, in his research perspective on Sociology and Economics of Education in the South, C. Arnold Anderson "doubts the strong Southern predilection for centralized funding of schools. Given the racial and status tensions about education, centralization may have retarded accommodation to new developments and inhibited would-be-pacesetter communities from moving confidently ahead to new educational programs."[5]

In any event, it seems fair to conclude that state aid is already the predominant source of education funds in Southern states and that state aid has not overridden the negative effects of low expenditures per student on the levels of innovation. When funds are insufficient to comply with accreditation standards, few resources will be devoted to local desires for change.

Thus only two of the Commission's 11 recommendations, early childhood education and redistribution of Title I funds, stand to directly benefit financing of Southern schools in general and the region's rural schools in particular. However, state aid, the big apple, may placate the non-South and thus pave the way for welfare reform and early childhood education shifts to the rural South.

But, from another perspective, perhaps the South doesn't need much additional help. With increasing economic growth in the South, state and local tax bases should be increasing. Properly taxed, revenues from these expanding bases should lead to absolute and relative increases in average expenditures per student. Continued out-migration and declining birthrates should enhance the size of the share. At least these have been the assumptions underpinning the projections made for the President's Commission on School Finance.

A Look at Available Projections

Table 1 shows current expenditures per pupil by region. In 17 Southern states, which school a third of the nation's students, current expenditure per student was $469, 79 percent of the U.S. average in 1967-68. They were projected to gain $243 in 1967 buying power by 1975. The relative share for the student in the South was projected to increase to 83 percent of the national average. To make up for this relative gain of four percent in the South, the Northeast was projected to slide two percent from 127 percent, the North Central two percent from 100 percent, and the West four percent from 106 percent of the national average.

Table 2 provides a breakdown of the expenditure data by type of school district for the base period 1967-68 and the projections for 1975-76. Here it is seen that non-SMSA districts schooled 15,021,000 children in 1967-68, more than one-third of the nation's youth. Of these more than 6.3 million or 42 percent are schooled in the non-SMSA districts of 17 Southern states from Texas to Maryland. Current expenditure per rural Southern public school student was estimated to be $447 in 1967-68, 83 percent of the national non-SMSA average. The projected increase to $668 by 1975-76 amounts to 86 percent of the national non-SMSA forecast.

Projections and Estimates Compared: Enrollment - A Surprise

While these projections are mor or less in line with what is thought to have happened and while data are more available now than then, we have not found an update of the analyses and projections in the literature. Therefore, for discussion we have prepared a compilation for comparison with current (1974-75) estimates. To avoid making adjustments for the buying power of the dollar the data are presented in terms of regional proportions of the U.S. totals. Table 3A presents a comparison of the relative size of the enrollments for the four regions. In 1970, the South still enrolled nearly one-third of the nation's public school students while the Northeast enrolled 21.3 percent, the North Central 28 percent, and the West 18.5 percent. The projections to 1975 show the South's proportions declining along with the North Central while the West and Northeast were to have slight increases.

Table 1. Current Expenditures by Region and Type of School District Per Pupil Enrolled in Public Primary and Secondary Schools.

	ESTIMATES 1967-68			PROJECTIONS 1975-76 (1967-68 Dollars)	
Region	Enrollment in Thousands	Expenditures per Pupil	Percentage of National Average	Current Expenditures per Pupil	Percentage of National Average
Northeast	9,405	$755	127%	$1,076	125%
North-central	12,552	$591	100%	$ 845	98%
South	14,329	$469	79%	$ 712	83%
West	8, 164	$629	106%	$ 881	102%
L. S. Average	44,450	$593	100%	$ 860	100%

Froomkin, Joseph; J. R. Endriss, Robert W. Strump. Population, Enrollment and Costs of Public Elementary and Secondary Education for 1975-76 and 1980-81. The President's Commission on School Finance.

Table 2. Current Expenditures Per Pupil Enrolled in Public Primary and Secondary Schools by Region and Type of School District.

Central Cities:					
Enrollment in Thousands 1967-68	2,990	3,643	5,101	2,804	14,538
Current Expenditures 1967-68 Estimates	$ 800	$ 626	$ 480	$ 663	$ 618
Current Expenditures 1975-76 Projections (1967-68 Dollars)	$1,144	$ 900	$ 742	$ 918	$ 898
Other SMSA:					
Enrollment in Thousands 1967-68	4,325	4,465	2,899	3,202	14,891
Current Expenditures 1967-68 Estimates	$ 763	$ 585	$ 496	$ 620	$ 627
Current Expenditures 1975-76 Projections (1967-68 Dollars)	$1,091	$ 845	$ 759	$ 873	$ 906
Non-SMSA:					
Enrollment in Thousands 1967-68	2,090	4,444	6,329	2,158	15,021
Current Expenditures 1967-68 Estimates	$ 674	$ 568	$ 447	$ 596	$ 536
Current Expenditures 1975-76 Projections	$ 965	$ 804	$ 668	$ 841	$ 774

Froomkin, Joseph; J. R. Endriss, Robert W. Strump. Population, Enrollment and Costs of Public Elementary and Secondary Education for 1975-76 and 1980-81. The President's Commission on School Finance.

In fact, the South's proportion of public school enrollment has increased. Out-migration from many Southern rural areas to Southern citites may have continued, but a net out-migration has become a net in-migration. Private schools have not grown as rapidly as expected, and birth rates, perhaps, have not dropped as far. Meanwhile, enrollment rates including kindergartens have climbed. On the other hand, the Northeast's proportion of the nation's enrollment has declined rather than increased. In-migration has slowed, birth rates have dropped to very low levels, enrollment rates have eased off, and private schools have not yielded to rising costs as rapidly as expected.

Projections and Estimates Compared: Expenditures - A Disappointment

Total enrollment has dropped from 46 million to 45 million as the baby boom passed. Therefore, the shift in the school budget formula from quantity to quality and equality should have a chance to work. However, inflation has taken its toll, and projections of increasing dollars do not necessarily translate into more buying power. In fact, HEW projections show public education buying power to be flat up through 1985.[7] This does not rule out regional shifts in buying power, however, If the formula is working, the proportion of the nation's public education expenditures flowing through school systems in the South should be increasing.

Revenues resulting from local growth should be growing faster than in the rest of the nation so that, in spite of an increasing proportion of the nation's enrollment and rapid inflation, public school students in the South should be benefiting from an increasing share of the nation's investment. The projections show that the increase from the lowly base of 79 percent should be an annual increment of ½ of 1 percent of the national average since 1967-68. As is seen in Table 3B, the South has experienced a relative increase in current expenditures. But when enrollment increases are taken into account (Table 4), the increase is only slightly more than one-fourth that projection or about 1/7 of 1 percent of the national average annually. Meanwhile, the Northeast, which was to have declined, has also increased, but from a much higher 127 percent to 128 percent of its share of per student expenditures during the same time period.

Historically, perhaps this is not unusual. Areas with declining enrollments and out-migration experience increased levels of expenditure per student while those increasing their enrollments experience lags in upward budget adjustments. In this respect, the South has fared as well as could be expected. The test lies ahead as to whether the revenues can be generated in a relatively more rural growth environment that has been the case historically. Industry and growth enterprises are seeking relatively more rural locations partly to avoid the costs of big cities, including taxes. Presuming local tax effort will continue to be important in financing schools, particularly construction, numerous non-SMSA municipalities will have to organize efficient taxing systems in addition to state level mechanisms. The historical experience of catching up with rapid growing private sector is new experience for the public sector in the non-SMSA South.

Table 3A. Public School Enrollment: Actual (1970) and Projected (Series E, 1975 and 1980) Regional Proportions Compared With 1974 Actual Regional Proportions.

Region	Actual[1] 1970	Projections[2] 1975	1980	Actual[3] 1974
Northeast	21.32	21.85	22.16	21.66
Northcentral	27.96	27.48	27.23	27.72
South	32.23	31.74	31.07	32.46
West	18.49	18.92	19.53	18.16

Table 3B. Public School Current Expenditures: Actual (1970) and Projected (Series E, 1975 and 1980) Regional Proportions Compared with 1974 Actual Regional Proportions.

Region	Actual[4] 1967	Projections[4] 1975	1980	Actual[5] 1974
Northeast	26.92	27.39	27.29	27.78
Northcentral	38.14	27.06	26.45	28.13
South	25.48	26.24	26.82	25.96
West	19.46	19.30	19.44	18.13

[1]Froomkin, Joesph, J. R. Endriss, and Robert W. Strump. Population, Enrollment and Costs of Public Elementary and Secondary Education for 1975-76 and 1980-81. The President's Commission on School Finance. Section 2, Table 4. 1972.

[2]Ibid., Section 1, Table 9. Projections apply to U.S. Department of Commerce, Bureau of the Census, Population Estimates and Projections, Series E, 1975-1980, Series P-25, No. 448, Table 2, p. 37, adjusted by the relationship between the 1970 Series E and the 1970 advance report of population, PC (V 2).

[3]Computed from Grant, W. Vance and George Lind. Digest of Educational Statistics 1975 Edition. National Center for Education Statistics, U.S. Department of Health, Education and Welfare. 1976, Table 26.

[4]Froomkin, et. al. "Projections..." Section 4, Table 41.

[5]Computed from Grant et. al. "Digest..." Table 70.

Table 4. Ratio of Public School Enrollment Regional Proportions to Current Expenditure Regional Proportions: Actual (1967) and Projected (1975 and 1980) Ratios Compared with 1974 Ratios.[1]

Region	Actual Ratio 1967	Projected Ratio Projected Ratio 1975	1980	Actual Ratio 1974	1974 Actual Ratio as a Percent of the 1975 Projected Ratio
Northeast	1.272	1.254	1.232	1.283	102.31%
Northcentral	.997	.985	.971	1.015	103.05%
South	.790	.827	.863	.800	96.74%
West	1.059	1.020	.995	.998	97.84%

[1]Computed from Table 3.

A glimpse at the task with regard to public school construction in the South and the fact that most of the South is dependent upon local taxing powers suggests that earlier comments in this paper on the value of increased state aid may need revision. The President's Commission is not explicit about how construction costs should fit into the picture. It is clear that modernization of many rural schools in the South would place excessive strain on the local tax base. Not only are the tax bases inadequate, but the relatively low productivity levels they represent lead to higher interest rates on their bond issues. More aid for school construction in many rural Southern districts is needed if anything approaching equality is to be achieved.

A Proper Mix of Leadership for Improved Rural Education

As a part of the process of non-SMSA municipalities and their school boards gearing up to the task of financing education and arriving at a just and proper mix of Federal, state and local revenues, and intensive community involvement experience will most surely evolve. Knowledge about the evolution of community involvement in non-SMSA Southern districts is very limited. The integration experience was largely imposed from the outside, and it is still being digested. A campaign leading to a successful vote to float a major tax bond issue in an integrated rural Southern school district is still a rare if ever experience. Organization of a rural lobby to promote increased proportions of Title I funding for predominately low-income districts is also non-existent, but it is probably safe to say that none of these things will happen without considerable local community involvement. A quote from the Sixth Annual Report of the President to the Congress on Government Services to Rural America is indicative.

"The Federal Government will continue in its efforts to improve the quality of life in Rural America through support and encouragement of the development that is so clearly now a part of our rural communities. As in the past, however, it is the local people themselves, through their own initiatives and energies, who must determine the manner in which their communities will grow and change. Government must not intrude on this basic American right."[8]

Table 5. Estimated and Projected Five Year Plant Replacement Rates by Type of District Within Region (Percent of Capacity)

	ELEMENTARY		SECONDARY	
Region	1967-70	1979-80	1967-70	1971-80
Northeast				
Central Cities	6.6	15.5	10.8	17.1
Other SMSA	15.3	12.5	19.8	15.0
Non-SMSA	21.3	12.5	19.8	15.0
Northcentral				
Central Cities	8.3	14.6	16.4	15.0
Other SMSA	13.9	12.5	22.0	15.0
Non-SMSA	15.7	12.5	23.5	15.0
South				
Central Cities	10.5	18.7	13.0	16.0
Other SMSA	19.1	12.5	25.9	15.0
Non-SMSA	10.9	13.3	-	22.5
West				
Central Cities	-	18.7	18.3	15.0
Other SMSA	15.6	12.5	-	22.5
Non-SMSA	14.5	12.5	22.3	15.0

Source: 1967-70 Figures derived from School Management Magazine data file as tabulated in Joseph Froomkin, Et. Al., A Report to the President's Commission on School Finance: Population, Enrollment, and Costs of Public Elementary and Secondary Education 1975-76 and 1980-81. 1971

Table 6. Average Interest Rages, Local Public School Bond Issues, by Region and Type of District

REGION	INTEREST RATE (Percent)
Northeast	
Central Cities	6.88
Other SMSA	5.95
Non-SMSA	5.54
Northcentral	
Central Cities	5.84
Other SMSA	5.87
Non-SMSA	6.04
South	
Central Cities	5.52
Other SMSA	5.67
Non-SMSA	6.04
West	
Central Cities	5.51
Other SMSA	5.49
Non-SMSA	5.67

Computed from a sampling of school bond issues, July 1969-May 1971, compiled by the American Bankers' Association for the U.S. Office of Education. Regional averages are weighed using construction outlays from School Management magazine data file. Joseph Froomkin, et. al., Projections...loc. cit.

Table 7. Share of New Public School Construction Financed by Local Bond Issues, by Region (In Millions of Current Dollars and Percent)

	CONSTRUCTION 1967 to 1970	PERCENT FINANCED by bond issues
Northeast	4,325	78.4
Northcentral	4,207	84.3
South	2,784	94.9
West	2,270	77.5
Total U.S.	13,586	83.5

Source: Bonds issued: Compiled from U.S. Department of Health, Education and Welfare, Office of Education, National Center for Education Statistics, Bond Sales for Public School Purposes, 1966-67 through 1969-70. Government Printing Office, Washington, D.C., various years. Construction: Adapted from School Management Magazine data file. Joseph Froomkin, et. a., Projections...loc. cit.

The potential of rural communities in the South to contribute to development of public education so that it can better serve their communities is surely greater than has been realized to date. Other states with little more average wealth, such as the Dakotas, have developed schools which served their local community by preparing their youth to compete relatively successfully for jobs in out-of-state cities. While their job has been bigger, Southern rural schools have not been as successful. The inequalities in wealth and the resulting low priority given to education for the poorer masses may be the basic underlying cause of poorer schools in Southern states compared with the Dakotas. To overcome the inequality problem at the local level, considerable Federal, state, and university leadership will most surely be needed and probably welcomed by local leadership.

The benign neglect of these inequities is no more apparent than when one conducts a data search to compare the financial status of rural Southern school districts with other regions. The most recent projections to be found, those utilized by studies from the President's Commission on School Finance, are based on 1967-68 data. The Bureau of the Census has more recent data from the Census of Governments, but analysis of this data has not found its way into the literature. Likewise, the National Center for Education Statistics publishes a series of annual documents, "Digest of Education Statistics," "Projections of Education Statistics," and "The Condition of Education," all of which provide extensive information for education planners, but none of which provide information on inequities between types of school districts. Similarly, at state levels, annual reports of state departments of education include massive amounts of data but they clearly are not designed to highlight inequalities among school districts. As a starting point toward providing the necessary minimum amount of Federal and state leadership, current annual data designed to monitor inequities between regions and types of school districts should be made public. The least we should be able to expect of national and state leadership is a well publicized, continuous, up-to-date status report on the equality of rural Southern public education within each state and relative to the rest of the nation. Similarly, given this data base, regional projections should be updated regularly. Local communities, state departments of education, and collaborating universities should always be aware of the equality as well as the quality score.

University Research as a Leadership Component in Rural Public Education

One ENPRD project has been to search the Dissertation Abstracts International files for evidence of interest in rural education needs projections by doctoral candidates throughout the region. A perusal of the DATRIX II high frequency word list found in the DAI files reveals that 22,506 dissertations including the words "school" or "schools" in their titles have been written. Also, 3,803 titles include "educational," 11,861 include "education," and 1,865 contain "vocational" as a part of their title.

Table 8. Scalogram of Dissertation Abstract DATRIX II Search by State Name and Two Additional Sets of Descriptors: (1) School(s) and (2) Selected Analytic Terms

	Selected Analytic Terms						
State	EdVo[1]	ReCo[2]	As[3]	DeInIm[4]	Pr[3]	Scale Score	Number of Dissertations[5]
Texas	1	1	1	1	0	4	48
Alabama	1	1	1	1	0	4	22
North Carolina	1	1	1	1	0	4	22
Tennessee	1	1	1	1	0	4	19
Mississippi	1	1	1	1	0	4	17
Missouri	1	1	1	0	0	3	44
Maryland	1	1	1	0	0	3	22
Florida	1	1	1	0	0	3	21
Kentucky	1	1	1	0	0	3	19
Arkansas	1	1	1	0	0	3	18
Georgia	1	1	1	0	0	3	14
Oklahoma	1	1	0	0	0	2	14
Louisiana	1	1	0	0	0	2	13
Virginia	1	1	0	0	0	2	12
Delaware	1	0	0	0	0	1	6
South Carolina	1	0	0	0	0	1	4
West Virginia	1	0	0	0	0	1	4
Dissertations	96	141	35	41	6		319

Code:

Re = relate, related, relating, relation, relates
Ed = educational
Vo = vocational
As = associate, associates, associating, associated, association
Co = compare, compares, compared, comparing, comparison
In = influence, influences, influenced, influencing
Im = impact, impacting, impacts, impacted
De = determine, determined, determines, determination, determining
Pr = predict, predicts, predicting, predicted, prediction, predictable, projection, delphi, forecast

[1] 1 = one or more dissertation titles containing "educational or vocational" plus school(s) and state name in title
0 = no such dissertation

[2] 1 = four or more dissertations with indicated analytic terms
0 = three or fewer dissertations

[3] 1 = two or more dissertations with indicated analytic terms
0 = none or one dissertation

[4] 1 = three or more dissertations with indicated analytic terms
0 = two or fewer dissertations

[5] DATRIX II Search complete from 1965 to 1975.

Table 9. Solicitation of Community Involvement in Public Education Needs Projection: A Regional Comparison of Doctoral Dissertation Titles and Abstracts 1965-1975.

Region / Years	Needs Projection Methodology							
	Delphi (Panels)				Conventional (Cross Sectional)			
	Educators Only		Educators and Lay Leaders		Educators Only		Educators and Lay Leaders	
Southern States	No	%	No	%	No	%	No	%
1975-75	5	83	1	17	2	67	1	33
1969-72	0	-	0	-	2	50	2	50
1965-68	0	-	0	-	0	-	0	-
1965-75 Total	5	83	1	17	4	57	3	43
Non-South States								
1973-75	4	33	8	67	10	63	6	37
1969-72	3	75	1	25	3	75	1	25
1965-68	0	-	0	-	3	60	2	40
1965-75 Total	7	44	9	56	16	64	9	36

The ENPRD project has attempted to exploit this massive file to determine the extent and range of dissertation research in the area of needs projection. An initial DATRIX II search of titles in the DAI file used logical word roots such as education, schools, and vocation in combination with descriptors like Delphi, projection, forecast, need, objective, and predict. This search resulted in only 124 references dating back to 1920. Only 25 of these dissertations were produced in universities of 17 Southern states. Some 30 titles include the word Delphi. A manual search verified our finding that dissertation-level education needs projection research is scarce.

The next DATRIX II search strategy was designed to couch this finding in the context of a logical progression from "description" research, to "comparative" research, and finally to prediction, projection, or forecasting. Given the state of the art and the lack of theory to guide forecasting methodologies it is logical to expect that most titles would fall in the former categories and fewer in the latter. This search was designed so that we were able to enumerate for 17 Southern states dissertation titles which contain (1) a state name, (2) the word "school(s)," and (3) selected terms which suggest the analytic nature of the research design employed. Using these descriptors, 319 titles, purged of those referring

to school(s) in universities, e.g. law school, were retrieved. As may be seen in the scalogram presented in Table 8, all states have produced a thesis containing in its title the words "school(s)" in combination with "educational" or "vocational," but none of the selected analytic descriptors. While some may contain analytic descriptors not included in the search, it has been assumed that these titles are descriptive studies.

Of the 319 titles, 141 contined analytic terms with "compar" or "relat" as word roots, but only 14 of the 17 states produced at least four such titles. A similar analytic root, "associat," which like "compar" and "relat" implies a "comparative" type study, was contained in two or more titles in 11 states. Finally, the fourth and fifth scale items contain analytic descriptors which imply an underlying causal model. Only five states produced three or more dissertations containing "determin," "influenc," or "impact," while no single state produced two or more theses with the root "predict," "project," or "forecast."

The cumulative pattern is instructive. States in which causal analysis is beginning are also the ones in which considerable descriptive and comparative homework has preceded. However, no "critical mass" of two or more doctoral dissertations which "predict," "project," or "forecast" by "Delphi" or other "need" assessment methodology while specifying one or more 17 Southern states, has been produced to date.

To be sure, there is evidence of ongoing work on forecasting methodologies in the region. Only three of some 10 types of forecasting - extrapolative, intuitive, and survey - as identified by Daniel P. Harrison, are apparently utilized to a significant degree in education needs projection.[8] In the extrapolation category, dissertations at Florida State indicate work on methods tying education projections to manpower needs.[9] Only one dissertation attempts to project school quality.[10] No more than three dissertations produced in the region are readily identified as having explored survey techniques to do "occupational and status projections" of Southern youth.[11] If plans and programs to link Southern youth more directly to Southern occupational opportunities are to bear fruit and dependence on in-migration of skills is to be reduced, more extrapolative forecasting needs to be closely linked to planning the regions vocational and educational programs.

In the realm of intuitive forecasting, the most popular approach among educators, work on Delphi methodology, is likely to make a contribution toward more successful community involvement in the education needs assessment process. However, dissertation research, because of its potential for innovation, needs to be striking out more boldly in providing examples of applying the Delphi technique to mixed community/educator panels. The technique, because it takes into account and explicitly provides for feedback and reevaluation on the part of need assessment participants, has considerable potential for facilitating dialogue and consensus formation.

A time-series analysis of dissertation abstracts identified in the above described search shows utilization of the Delphi technique to be very recent in doctorate degree granting institutions in the region.

Six have been produced, all since 1973.[12] Only one of these explored methodological problems involved in utilizing mixed panels as opposed to educator only panels. Outside the region, response to the community involvement movement was more apparent. Of 16 produced, all since 1969, nine involved mixed panels. Since 1973, eight of 12 such identified dissertations outside the region have utilized mixed panels. Traditional methodologies involving one-shot surveys of opinion were more frequently applied to educators only, both inside and outside the South.

The pattern in the South of using Delphi with educators only may reverse itself during the next four years as it did in the non-South during this period. On the other hand, the methodological difficulty in dealing with mixed panels with widely varying perspectives may be greater in the South than elsewhere. As noted by Harrison,[13] difficulties in identifying and selecting a balanced panel of experts from different backgrounds is problematic. Furthermore, could one expect authoritative convergence from divergent areas of expertise? Additionally, there is the question of whether the technique tends to force conformity. Indeed such a latent "gentle persuasion" characteristic may underlie the choice of the technique in some instances. In any event, use of the technique provides at least one mode for citizen participation in education decision making.

In sum, the potential for university sponsored research, such as dissertations, to pave the way for more fruitful community involvement in Southern rural education appears to be considerable.

The Federal Leadership Component in Rural Public Education

Aside from Dissertation Abstracts, the single largest indexing of education literature is, of course, the Education Resource Information Center (ERIC) and, specifically, for the purpose of the ENPRD project, the Clearinghouse on Rural Education and Small Schools (CRESS) at New Mexico State University. A search of the ERIC-CRESS files plus clearinghouses for Administration, Career and Vocational Education provided another strong indication that very little has been documented on rural-community involvement in education planning in the South. Work, however, has been done directly or sponsored by ERIC-CRESS in the form of syntheses of a range of recommendations and rationales found in the literature. Principally, these are recommendations which if implemented at Federal, state and local levels would provide for a broad based improvement in rural schools throughout the region rather than just the occasional token appearance of a demonstration rural school blessed with exceptional leadership and foundation or government funding.

Moe and Tamblyn[14] emphasize the importance of the Federal government taking more responsibility for leadership in articulating a national policy for rural education. Quoting a USOE Task Force Report on Education, they stress the recommendation to establish a rural unit in the U. S. Office of Education and to induce the several states to establish Offices of Rural Education within their Departments of Education. Coordination of the education planning activities of this type of structure with the rural development efforts of the states, their

planning and development districts, and with activities under the Rural Development Act of 1972 would provide a unified format through which communities could begin to articulate toward their common education goals. When no such structure exists, rural communities cannot be expected to contribute up to their potential in any national or state level effort to reduce inequities among rural districts or between regions or types of districts. If this is understood at Federal levels, and there is a genuine concern about inequalities among our nation's schools, some action would surely be forthcoming. In 1976, however, Everett D. Edington in his synthesis of literature on strengthening the rural school reports that "there has been no indication that the report of the Task Force has ever been read, much less acted upon."[15]

The question then must be, "Who is interested enough in the plight of rural education to give it priority, and to provide resources to organize a lobby for development of a rural education infrastructure which would provide rural communities linkage to state and national programs designed to facilitate equal education opportunity for all?"

In sum, the evidence reported here suggests that relatively little is documented on adapting community change models and education needs projection and planning techniques which endeavor to involve the rural Southern community at both state and local levels. Available projections are not up-to-date and are perhaps misleading at local levels; local leadership, when brave enough to raise its head, is left dangling with few technical services to link the local community to state departments, university expertise or Federal government programs. Hopefully, the above discussion highlights the increasing importance to the region of more collaboration among university researchers, the Federal government, state departments of education, and the people of rural school districts in planning and mobilizing for the improvement of public education in rural areas.

Footnotes

[1]Neil McElroy, Chairman, Final Report of the President's Commission on School Finance: Schools, People and Money - The Need for Educational Reform, 1972, p. x.

[2]Ibid., p. 147.

[3]W. Vance Grant and George Lind, Digest of Education Statistics: 1975 Edition. National Center for Education Statistics (Washington, D. C.: U. S. Government Printing Office, 1976).

[4]Betsy Levin, Thomas Muller, William J. Sconlon, and Michael A. Cohen, Public School Finance: Present Disparities and Fiscal Alternatives. A Report prepared for the President's Commission on School Finance by the Urban Institute, Washington, D. C., 1972, Volume I, p. 248.

[5]C. Arnold Anderson, "Southern Education: A New Research Frontier," in Edgar T. Thompson, ed. Perspective on the South: Agenda for Research (Durham, NC: Duke University Press, 1967), p. 187.

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[7]U.S.D.A. Rural Development Sixth Annual Report of the President to the Congress on Government Services to Rural America (Washington, D.C.: Rural Development Service, U.S.D.A., 1976), p. 24.

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RURAL FUTURES DEVELOPMENT STRATEGY*

By
Dr. Ray E. Jongeward

The Northwest Rural Education Laboratory (NWREL) is a private, nonprofit corporation located in Portland, Oregon. The Rural Education Program, presently funded by National Institute of Education, is one of several efforts in the Laboratory, and dates back to the beginning of the institution in 1966. During those early years, the emphasis of our REP efforts was on improving educational opportunities for children and youth who attended small rural schools. Limited funds from the United States Office of Education were used to develop self-instructional systems of instruction that were intended to be nearly teacher-proof, high quality curriculum packages. Subject matter specialists were used to develop and produce them, and they were tested in 10 or more locations in the five Northwest states. Several of these systems were completed, including Speech, Plastics, Welding, Art and Mathematics. By 1968, though the curricular packages were mostly successful and produced good achievement results, other factors seriously questioned their continued production, testing and use. Aside from being very expensive to develop, there was little continuity in their use! Results of evaluations revealed that several factors were involved: (a) teachers needed training and administrative support to use them; (b) teacher turnover often resulted in their disuse--some took them with them--some new teachers didn't know how to use them and therefore did not; (c) new administrators, not involved with their earlier introduction, shunned them or sometimes ordered them out of their schools. The net result was a less than satisfactory use of these innovative instructional materials.

Many staff discussions were held to analyze this problem and to decide what to do about it. Innovation and change literature was extensively examined. The experiences of others using innovations were checked. From these data a decision was made to find new ways of involving parents, together with teachers and administrators. The logic for doing so included ideas such as: students, teachers, and administrators are transient in a school community--the parents are usually the most stable factor in a school environment. If an innovation is to continue, neither students, teachers nor school administrators could be depended upon for continuity since they are often transient. The parents being the most permanent among these groups must, therefore, become actively involved. This idea was seen as a possible solution to keeping the self-instructional systems operating in the rural schools. (In retrospect, it was the right decision for the wrong reason! Involvement of parents was right. Doing so to market <u>our</u> self-instructional systems

*This paper was a presentation to the Southern Association of Agricultural Scientists in Atlanta, Georgia, February 8, 1977.

was a manipulative tactic and was wrong!)

Rural Education Program initial experimentation with procedures for parental involvement, continuing staff discussion, examination of social and behavioral science literature and the recognition of our strong value bias made us realize that lasting change was predicated upon involvement in decision making--the earlier the better--and that all major actors should be included! This caused us to turn toward processes for involving parents, students, teachers and administrators. Soon thereafter, we phased out production of self-instructional systems and concentrated our efforts on developing a workable model for community involvement.

We had exciting times in 1969 and 1970 as we explored a wide variety of procedures and processes for getting people involved in educational decision making. Parts and pieces of the model were used in a number of schools and communities throughout the Northwest. The first set of processes (rough model) was used in Seldovia, Alaska (1969-70) followed by new versions in Inchelium, Washington (spring 1970) and Healy, Alaska (summer 1970-72). Variations were used in Neah Bay, Washington (1970-71), Okanogan (1971-73), where a cluster of four school communities were involved simultaneously, and in Montana (1971-73), where 55 State Department of Education staff members were taught and used the processes of the model in over 25 school districts. These early efforts were funded by a combination of contracts from USOE local districts and state departments of education. A much expanded change and process model was conceptualized involving five integral components and a five-year $5M proposal was submitted to NIE for funding. We were successful! The five years of heavy field involvement in developing, testing, evaluating and modifying the strategy ended in November, 1977. Two extensive prototypes were tested, one in San Juan County (SE) Utah and the other in four towns in northeast Washington state.

The community involvement model has now been used as a whole or in part in more than 40 Northwest communities. It has never been used in the South. While this is true, similarities shared by the Northwest with the South lead us to believe that it is adaptable to many schools and communities of the South. Factors which appear common among the northwestern and southern states include:

- rural development is rapid, including expansion of industry;
- both are intercultural--Northwest has Indians and Chicanos;
- rural population growth is increasing (10% since 1970 in non-adjacent counties);
- the rural population is becoming more diverse;
- new school construction and/or remodeling is continuing;

- a new optimism is apparent with population growth and retention; and

- there are increasing clashes between "oldtimers" and "newcomers."

Enumerating the items above by no means is an attempt to equate the rural Northwest with the rural South. They are not the same, though they do share some common characteristics.

What is Rural Futures Development?

Rural Futures Development (RFD) is a flexible set of procedures which actively involve a widely representative group including students, teachers and administrators together with citizens in determining what, how and when something might be done to improve the educational opportunities in their community. It is a planned change model similar to what Rothman calls "locality development."

The strategy being developed and tested is called the RFD Strategy. It is designed to provide consultation, training and materials to local, regional and state agencies.

At the local level, the strategy relies on the formation by the school board of a representative body of people from the school and community. This School-Community Group:

- focuses on the community's educational needs,

- searches for ways to meet those needs,

- selects alternatives that fit local conditions and resources,

- presents a plan of action for school board approval, and

- assesses the results and begins a new cycle of activities.

The group is assisted with its tasks and activities by a team of "process facilitators," hired or selected in the local region and skilled in helping groups work effectively.

The RFD Strategy has been largely successful when it has been used in the Northwest region. Results have varied with a few areas that failed to attain expected outcomes. Many examples of successful applications could be cited; however, with the limited time available, only two community efforts will be described:

One of the first communities to use this process was Healy, Alaska. In 1970 the Healy K-12 program was housed in movable trailer units. The school board there was determined to improve both the curricula and the school facilities. A very active school-community group

formed by the board soon discovered what could be accomplished when the staff, board, superintendent and community worked together. Over the past five or six years they:

- developed educational goals for the school, including new requirements for high school graduation and a four-part master plan for physical facilities,
- raised sufficient money to complete Phase 3 of the master plan, costing over 2½ million dollars,
- added a complete vocational, music, physical education and cafeteria program, thus greatly increasing curricular opportunities for both elementary and secondary students, and
- began an adult education program for adults in the community--both credit and non credit.

This same group, incidentally, was instrumental in getting a volunteer fire department started, improving the telephone system, and getting a bridge built across the river to connect the two parts of the community.

RFD Materials Display

The field tested products of the RFD program are now available. These materials include the following products in prototype form:

The RFD Training Guide
The RFD Sample Training Activities
The RFD Manual for School-Community Process Facilitators
The RFD Notebook for School-Community Groups
The RFD Guide for Schools
The RFD Guide for School Boards

Three additional contracts place the RFD concept much more firmly in the rural development category.

1. Community Education Training:

Although the process component of Community Education has been the focus of increasing interest in the past few years, community educators feel there has been little broad-based application of process skills in the daily operation of Community Schools. Consequently, individuals and groups in the Northwest identified the development of process facilitation skills as a priority concern for Community Education. Out of their interest and efforts was born the Community Education Process Facilitation Project.

The project has three major purposes:

a. To build a cadre of people in the Northwest who are able to provide process training and consultation to local Community Education programs

b. To train local coordinators/directors in order that they may work more effectively with their Councils

c. To aid Councils and Council members in developing their problem-solving and decision-making skills

Process facilitation training focuses on three areas:

a. Task Accomplishment

b. Group Effectiveness

c. Intergroup Collaboration

The skills needed for each of these areas are integrated into six, two-day training sessions organized around the six phases of the problem-solving process. They are:

a. Revitalizing the Council

b. Focusing on the problem

c. Searching for alternatives

d. Planning for action

e. Carrying out the plan

f. Assessing the results

In addition, trainers learn the skills necessary to train coordinators. These trainer skills can be described in three broad categories:

a. Theory and diagnosis

b. Design and planning

c. Conducting and evaluating

It is expected that the effects of the Community Education Process Facilitation Project will be broad-based and long-term. As more people give and receive training in process skills, that component will become increasingly important in the continued effectiveness of Community Councils and Community Education.

In addition, the materials developed and field tested by the pro-

ject will be directly applicable to Community Education and will help to make process training in Community Education available nationwide.

2. Cooperative Extension Training

The Rural Education Program at the Northwest Regional Educational Laboratory has developed a comprehensive program to improve the capability of the Cooperative Extension Service to provide process facilitation training and materials to its faculty. Focus of the training is on adding a process orientation to the work performed by field agents, thereby improving the effectiveness with which they work with individuals, groups and organizations.

Training is designed to expand the participants' ability to meet the changing needs of an ever-expanding audience. This is accomplished by focusing on the attitude, knowledge and skill in three areas:

a. THE INDIVIDUAL: Focus on self-awareness, assessment, personal needs for learning and skills.

b. THE GROUP: focus on group process, development of a positive learning environment, using groups effectively.

c. THE COMMUNITY: focus on identifying and practicing skills used on the job.

On the individual, group and community level, participants are given the opportunity to gain skills in:

problem solving
team building
communication
decision making
collaboration
conflict management
facilitative leadership
assessing needs
building trust

Three Northwest Regional Educational Laboratory staff members conduct training for approximately 85 Cooperative Extension faculty from throughout the state. Sixteen faculty members receive additional training that prepares them to deliver process facilitation skill training in the future. All program areas including 4-H, agriculture, and community development and family living are represented. Participants include county agents, county chairpersons, district supervisors, state specialists, area consultants, state program leaders and support faculty.

Faculty training occurs in Spokane, Yakima, Vancouver and Seattle. Five, two to three-day sessions are offered over a 12-month span. Total time commitment is about 14 days, not counting independent study and preparation.

In addition to formal training, individual, over-the-shoulder assistance is provided to the faculty trainers as they work with their own clientele.

The effects of this training are broad-based and long term. By strengthening process facilitation skills of faculty members, they are better able to deliver service and help people help themselves. As more and more people give and receive training in process skills, the effectiveness and productivity of Cooperative Extension Service increases.

3. Partnership for Rural Improvement

There are several basic goals and procedures in PRI. First, the partnership is attempting to focus the energies and resources of several institutions, agencies and jurisdictions on rural development, per se. These groups include various units of Washington State University, community colleges, educational service districts, local governments and state and Federal agencies. PRI will design education and action programs that attempt to increase understanding of rural issues and alternative planning and development strategies and opportunities which might exist if resources are combined.

There have been many studies and experiments in the social sciences focusing on organizational development issues. If PRI can apply this knowledge effectively, institutional change will result and consequently provide a more congenial environment for rural planning and development programs.

In addition, the partnership will help: (1) design and develop specific education and action programs which will more optimally use resources to meet local community and regional needs; (2) provide training and experience for individuals to function as facilitators of rural planning and development; and (3) as a product of PRI experience, develop new information for publication and dissemination in the region, and eventually throughout the state and nation.

VOCATIONAL EDUCATION CONTRIBUTIONS TO INDUSTRIAL DEVELOPMENT: THE MISSISSIPPI EXPERIENCE*

BY

Dr. James E. Wall**

This paper presents an historical overview of an industry services program that is currently being operated in Mississippi. The program is coordinated by the State Division of Vocational and Technical Education (SDVTE) of the Mississippi Department of Education. Although the need for an industry services program was recognized as far back as the late 1950's, it was not until 1972 that a concerted effort was made to implement one.

Industry services are those tasks performed by public agencies or institutions which are directly related to the manpower development process of job development, job training, and job placement. More specifically the tasks relate to recruiting, testing, training, upgrading, evaluating, placing, and advancing manpower for private industry. The services are provided when existing or "traditional" vocational-technical education curriculums are not applicable to the unique needs of a specific industry, when participating learners in existing curriculums are not available for immediate employment, or when qualified manpower is not otherwise available in the community.

Mississippi's industry services program has been operating for about five years. During that time, the program has provided training in a variety of specific areas for approximately 60 different companies or firms. These areas for which training has been provided include the following:

A. Assembling electrical equipment such as transformers, power circuit breakers, wiring harnesses, electric power tools, and vending machine coin changers.

B. Testing of various industrial products.

C. Printing industry jobs, such as rotogravure engraving, paste-up and stripping, photography, press operation, and binding.

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D. Manufacturing wood products, such as paper and building materials.

E. Construction of nuclear power plants.

F. Acquiring skills in welding, machine tool operation, tool and die work, maintenance mechanics, and industrial electricity/electronics.

G. Acquiring skills in warehousing and distribution.

H. Supervisory skills, such as human relations, first aid, time-and-motion study, quality control, and utilization of automated systems in industry.

I. Performing basic work skills such as industry-related math problems, reading blueprints and schematics, using electronic calculators, and using the metric system.

J. Obtaining assistance with work related problems such as transportation to and from work, and understanding worker benefits, company regulations, and company policies.

Industry services are directed toward single industry training needs. This requires a single set of training objectives to be identified for each industry that is served. Training strategies are planned precisely around these objectives. Training is custom-designed for a specific industry.

Industry services affect prospective workers, employees, supervisors, and managers. The services may be provided in public training facilities on the learner's time or in the industry facilities during working hours for presently employed personnel. Industry services may be provided for employed persons who desire to work for the client industry; unemployed persons seeking work; newly hired persons; and employees who desire to change positions within the industry, obtain promotions, learn new manufacturing techniques, and obtain wage increases.

The industry services program assists industries and private citizens in becoming increasingly aware of their training needs. Avenues are provided for gaining upward career progression through training. Both participants, or workers, and industries derive benefits from the industry services programs.

The participants. The industry services program is an important factor in moving the untrained, unemployed, and underemployed into increasingly productive and rewarding careers. There is immediate observable payoff for the participants since the instruction provided is directly associated with actual jobs in industry. Each participant in an industry services program receives specialized training based upon clearly stated industry needs. Therefore, the participant's value in the competitive labor market is significantly increased.

Much of the instruction during an industry services program is conducted by industry managers and supervisors. The face-to-face, first-name encounters with industry managers and supervisors enable the participants to assess whether the jobs in the industry are compatible with their needs and interests. The participants learn how to function together as members of a team before actual employment.

The length of industry services programs is not limited to set class periods of hours-per-day or weeks-per-year. This flexibility permits the custom designing of programs to meet the needs of the industry and prospective employees.

Educators themselves benefit from their involvement with industry services because industry representatives are innovators in task efficiency. Industry representatives may contribute new ideas about training practices which complement or improve the practices currently used in education.

The industry. Each industry services program is a partnership between an industry and one or more local agencies. When job training is a joint endeavor, several benefits to the industry occur. Individuals are trained at low cost to the industry; the persons who participate in industry services learn new skills which enable the industry to achieve increased productivity; and the industry is able to start operations more quickly and efficiently with better trained personnel. The eyes of the community are certain to focus on the industry and community partnership. Those who are involved in the industry services activities become "pipelines" for communicating the goals of the industry to the community. The cooperative efforts between the industry and local agencies to provide industry services elevate each organization to a new level of importance in the community.

Nature of Industry Services Programs

A comprehensive industry services program in any given community includes at least three major functional concepts: job creation, job training, and job placement. They are described as follows:

A. Job creation -- is the creation of occupational opportunities in the local community as a result of efforts aimed at industrial recruitment and expansion, and the associated expansion of sales and services. The impact of job creation efforts can be made vivid by studying occupational structures and changes in those structures, i.e., total numbers of employed and types of occupations in which they are employed. The nexus from which job creation impact stems can be analyzed by studying the community development rationale that gives impetus to the creation of jobs, the community actors who are most active in job creation, and the coordination of job creation with other processes of community development.

Some people narrowly define the job creation function as a sort of "seek-and-find" mission by which industries are lured to a particular location. Such a narrow definition reduces it to a sales or publicity pitch, a role which may appear to reap success over a short term. However, for more long-term, manageable community growth and progress, the broader definition seems to be more appropriate.

B. Job training -- is the process(es) by which people acquire necessary performance competencies in order to move into better jobs. Job training is interrelated with occupational socialization, which is the process by which people selectively acquire the values, attitudes, interests, performance skills, and knowledge current in the occupation in which they seek employment. Descriptively, job training is seen in terms of the various training programs and agencies operating in communities and the numbers of people participating in them. Other important aspects of the job training concept include: (1) those actors most active in job training; (2) the coordination of training programs and agencies among themselves and with other aspects of the community; and (3) the relevance of the job training efforts to the needs of the community.

C. Job placement -- comprises all the activities carried out to place people, once trained, into jobs. Hence, jobs, once created, must be filled. Training, once completed, must find fruition in satisfactory employment. Descriptively, job placement is seen in terms of reported hiring by employers. Other placement factors of importance in terms of community development are: (1) the problematic nature of placement in tight labor markets; (2) the role of training in such cases; and (3) the major impediments to placement of trained persons as perceived by various groups (actors) in the community.

Need for Industry Services Programs

The industrial revolution is a relatively recent phenomenon in the southern region of the United States. For Mississippi specifically, manufacturing occupations have soared in recent years, gathering momentum in the 1950's and mounting exponentially in the 1960's and early 1970's. Other southern states have experienced similar industrial growth during this same period.

One of the main factors that an industry analyzes before movement or expansion to another location is the quality and quantity of available labor at prospective new plant sites. Availability of labor is tied directly to vocational education; hence, vocational education is considered to be a key aspect of any industry services program. The roles and functions of vocational education need to be articulated with those of other cooperating agencies as an industry services program is carried out.

Some states have chosen to set up a totally new and separate agency under which all aspects of an industry services program are administered. South Carolina is an example of a "separate-agency" approach to offering industry services.

Meanwhile, other states have chosen to coordinate the expertise found in a number of existing agencies in order to accomplish the same industrial development objectives. Notable are Mississippi, Florida, and Oklahoma in following the "multiple-agency" approach.

Both approaches have their advantages and disadvantages. The "separate-agency" approach claims: (1) to have better control of all industrial development activities; and (2) to be able to make quicker responses to an industry's needs. Such claims are not necessarily founded on scientific fact. The "multiple-agency" approach, on the other hand, claims: (1) to offer a wider variety of expertise found in multiple agencies; and (2) to have a broader base of leadership available at the different levels (state, area, local) of these agencies.

Types of Training Included in Industry Services Programs

There are three broad types of training that are included in an industry services program. Following are brief descriptions of these:

A. Pre-employment training: new industry -- is normally conducted for prospective employees for new incoming industries/businesses that are locating new plants in one or more sites within the state. Pre-employment training is designed to prepare groups of new employees for immediate job opportunities. Pre-employment training is not limited to particular target groups. Many of the participants in pre-employment programs are already employed, but wish to compete for new jobs.

Trainees in a pre-employment program attend classes on their own time without compensation. No charges are made to the trainee or to the company by the training institution. The trainees have no firm commitment that they will receive a job, but successful completion usually insures that a job offer will be made. Graduates of a pre-employment training program are not obligated to accept employment with the client company.

Following announcement of the decision to build a new plant, or renovate an existing facility, prospective employees are recruited by the local office of the State Employment Service, screened and referred to the local training agency (high school, area vocational school or junior/community college technical program) for specialized training immediately prior to job-entry with the industry/business "client." Simultaneously with the announcement of the decision to locate a plant, the Research and Curriculum Unit (R/CU) located at Mississippi State University is alerted to begin development of pre-employment

training materials. The R/CU staff "custom" designs curriculum materials, aids in the conduct of the training program, monitors training progress for adjustment purposes, and evaluates the entire process.

B. Pre-employment training: existing industry -- to train new or additional employees for an existing industry/business that is entering an expansion program. The client may be experiencing normal, regulated growth, or it may be reacting to unforeseen market demands brought on by any number of different forces operating in the economy. Such economic forces, of course, may have local, regional, or national implications, but the impact is always felt, sooner or later, on the local scene.

C. In-plant training -- is for present employees in an existing industry/business that is contemplating greater degrees of product and/or service quality control, entering an expansion program, experiencing normal growth, or adapting to changes resulting from technological advancement.

In-plant training is provided for newly hired employees, as well as for regular employees who can profit from upgrading instruction. In-plant training may be provided formally or informally on the production line, or formally in an area within the industry separate from the production line. The trend is to include both job-skill content and worker-oriented content in the in-plant training program curriculum. Worker-oriented training is designed for individuals who have certain basic deficiencies which would hinder successful skill training as well as hinder progress on the job. The deficiencies may include basic math and reading, human relations, worker responsibilities, family planning, housing, health care, financial counseling, personal appearance, and transportation.

Although both pre-employment and in-plant training are often provided for a client company, one phase of training may be provided without the other. Pre-employment training is usually provided before a new plant opens or when an existing plant expands. A public training institution and the local employment service office recruit a sufficient number of trainees to meet staffing needs. Usually the pre-employment training program is conducted three or four nights per week for 9-16 hours per week. The classes are conducted at any time most convenient to the trainees, but most prefer evening classes.

In-plant training is conducted on the production line or in some other appropriate area at the plant site. Client company supervisors almost always provide the instruction for in-plant programs. The time spent by the instructors in training is reimbursed by the public training institution.

In-plant training may be the second phase of training after graduates of a pre-employment program have been selected by the company. Another alternative is the in-plant training program provided for upgrading present employees.

In-plant training lasts as long as necessary to meet pre-established proficiency levels. The percentage of the supervisor's time in actual training diminishes as the employees near proficiency levels, and more time is spent on supervision.

Consumable material is not usually provided by the public training institution for in-plant training. Products manufactured by the employees during in-plant training are marketable, provided the products meet company quality control specifications.

All of the above types of training are different from traditional vocational education programs, in that they are usually short-term; have tight target dates for training completion; are focused on relatively small groups of trainees; and the training may occur in-school, in-plant, in another facility, or in combinations of these. Also, the fact that there is an excellent prospect for employment immediately following training is a positive force in industry services programs. This is the premise on which persons are identified, recruited, and referred for training.

Coordination Aspects of Industry Services Programs

Coordination of multiple agencies is the key to Mississippi's successful industry services program since many training and related services are provided to a given industry. The expertise for providing the services must be coordinated among several different agencies.

The services provided for industry may begin with the involvement of the state agricultural and industrial board, or other similar groups, which seek and find new industry for the state. The governor's office is constantly in search of industry prospects from the various states as well as foreign countries. Local chambers of commerce and other groups interested in industrial development host representatives from industry who may wish to survey the community. Local industrial development groups can provide relevant information and data about site locations.

The state employment service provides statistical information about available manpower and average wage rates for the type industry in question. The state research and development center often conducts surveys in a local community regarding such factors as economic trends, energy sources, and population mobility.

The state division of vocational-technical education provides information concerning available start-up training services. The local public training institution provides information on the facilities and equipment available for training. Although these activities may precede specific training activities, they are vital factors in providing comprehensive industry services.

Since industry services are so diverse, leaders in the agencies involved coordinate among themselves the various activities. These leaders help avoid delays in services and management-by-crisis situations.

In order to encourage industry to move into the state or to expand present operations, public officials often make certain commitments regarding purchasing site land, issuing bonds for building construction, developing the site location, and training employees. The industry services leader from each agency involved assesses the commitments and proceeds to complete the services with the available resources. It is sometimes necessary to negotiate the specific terms of the original agreements and to bring them into line with the available resources. The negotiation sessions are handled in a constructive manner and every effort is made to accommodate the client company's needs.

Following the announcement of an industry's intention to locate or expand in a community, training plans may be initiated. The state coordinator of industry services arranges for a meeting with industry representatives and outlines in detail the services which are available from the state division of vocational-technical education, the research and curriculum unit, state employment service offices, and local training institutions. Quite often, the industry makes the initial inquiry into the services available. If industry responds positively to the services available, further meetings are arranged between the industry representatives and agency leaders to identify the functions of agencies involved in the service, to develop training agreements, and to develop a lead-time schedule of tasks to be completed.

The initial meetings between the agency and industry representatives are often conducted in an out-of-state parent plant. This usually gives the state representatives an opportunity to view firsthand many of the operations of the prospective industry. It may be possible on some occasions to collect most of the information needed to plan and conduct a training program during the initial plant site visit. However, it is usually necessary to make other visits to the parent plant for the purpose of interviewing workers, observing work in progress, and photographing/videotaping task procedures.

Training Coordination in Industry Services Programs

Following are the major elements comprising the training aspect of an industry services program.

A. Obtaining agreements and commitments. The primary focus of industry services is training. The industry services leader first convinces the industry that training is an excellent investment. Although the various state and local agencies may provide much assistance

without cost to the industry, the industry representatives must become aware that certain industry commitments are of vital importance. Industry is not led to believe that training can be conducted without assistance and commitments from personnel within the industry. These commitments are identified by arranging a meeting between the agency and industry representatives and analyzing the tasks which must be completed. Once the tasks are identified, the resources that must be provided for training can be determined. This serves as a basis for developing an agreement which indicates (1) the tasks to be performed, (2) who will perform the tasks, (3) what the cost will be for performing the tasks, and (4) who will pay for the cost of training.

To insure that these commitments are fulfilled, a lead-time schedule is developed. The lead-time schedule is a management tool which depicts the tasks to be performed and indicates the starting and completion dates of the tasks identified. Someone is designated overall coordinator/monitor of the various assignments during the industry services project. The local administrator of vocational-technical education usually serves as the overall coordinator.

B. Identifying training needs. The initial information collected from the industry representatives during early meetings is used to obtain commitments and to develop agreements. This information also suffices for determining the overall cost of the industry services program. However, much more detailed information is required in order to plan detailed training content. It is often necessary to make serveral more visits to the parent plant site to interview workers, observe work in progress, and to compile existing information on worker needs and production processes. Industry representatives who assist in this effort are managers, engineers, supervisors, quality-control specialists, and production-line workers.

Constant contact is maintained with the employment service representatives if new personnel are needed for the training program. Employment service representatives are able to provide information on persons available for training and establish wage rates in the community for various types of jobs. This information is essential for establishing the type content needed for the training program.

C. Acquiring resources. The extent of difficulty in acquiring instructors, a training site, and equipment, tools, and supplies depends upon the type program offered. There may be little or no difficulty in acquiring resources for an in-plant training program. On the other hand, considerable amounts of time and effort are required to obtain resources for a pre-employment training program which will utilize a public training facility and equipment, tools, and supplies identical to those used in the industry. These factors should be accounted for in the initial agreement.

Industry services instructors are usually selected from the ranks of experienced employees in the client company for both pre-employment

and in-plant training programs. However, a faculty of qualified instructors at the training institution may be available for service if needed. It is essential that the most qualified instructors be selected for industry services programs.

The facilities and equipment in local vocational-technical departments may be available for training; however, training may also be provided at the plant site, using industry equipment, tools, and supplies. Some public training institutions have purchased mobile learning classrooms for use when other facilities are not available.

D. Training instructors. Probably no factor is more important to the success of an industry services program than properly prepared instructors. All participants in industry services programs are adults who will not tolerate failure on the part of the instructor or supervisor. Instructors are informed of their role in the training program as soon as possible. Every effort is made to involve them in all phases of planning for the program, including the development of all training aids prepared for the program. The industry services leader assists the instructors in organizing classes and in using the most appropriate training procedures.

E. Preparing training materials. With each company the industry services leader identifies the jobs for which training is needed, lists the tasks performed by individuals in these jobs, identifies the knowledge and procedures used to complete each task, writes performance objectives and standards for each task, and prepares training aids (e.g., manuals and videotapes) for each task covered in the program. The purpose of the training materials is to assist in training prospective employees to the performance levels desired by the company. The public training institution has no preconceived or artificial standards that must be met.

The trend in the development of training materials is to prepare self-paced units (modules) for each task or each set of closely related tasks. Self-paced units have particular use when learners differ vastly with regard to interests, abilities, knowledge, and attitudes, and when the instructor/supervisor does not have multiple-hour blocks of time available for instruction. Learning centers can be set up whereby each learner has a personally prescribed program of study and has access to all necessary instructional aids. The instructor/supervisor is available to assist learners when needed.

F. Selecting candidates for training programs. An adequate supply of qualified prospects for training and employment can be provided to an industry. The state employment service offices have access to a state-wide computerized telephone/viewing screen hookup, which lists all jobs available and their locations throughout the state. Every citizen in the local community who may be interested has access to this information. This speeds up recruiting prospective trainees and skilled workers available for training and/or employment.

If necessary, an advertisement may be carried in a local newspaper, or through some other news media, requesting applications for

the training program. Employment service personnel and training institution counselors work closely with the client company in recruiting, testing, counseling, and referring prospective employees.

Another approach is for the industry services leader to assist the client company in planning a training program for upgrading workers. In this type training program, assistance is provided in selecting workers who can profit from new or upgraded skills. The program may be conducted at the plant site or at the public training institution.

G. Conducting the training program. The industry services leader may make decisions at any point in the training program which assist in achievement of the training objectives. Each program is monitored from beginning to end, and corrective action is taken when necessary to facilitate the work of the program staff. Time is set aside periodically to examine the effectiveness of the training activities. The ratings and accomplishments of each trainee may be reviewed periodically by company personnel. The ratings are a basis for continuing company production and expansion plans.

Each instructor plans a schedule of learning activities for the trainees. The learning activities parallel the tasks performed in the industry jobs. Additionally, the instructor prepares an agenda for each session and assembles and organizes the training aids to be used during each training session. The needs of the learners change as the program progresses, and adjustments in the training schedule may be required. The instructor advances each learner through as many learning experiences as time and ability permit.

H. Recognizing trainee accomplishments. The educational accomplishments of each program participant are recognized by the training institution. Certificates provide tangible evidence of achievement. A time is set aside for a formal presentation of the certificates by the school superintendent/college president, or some company official.

The most meaningful way to recognize accomplishments is to place each participant in a rewarding job, or to provide opportunities for advanced placement. Training programs should be motivational in nature, the results being that trainees set new employment goals. When these goals are reached, they will most likely strive for higher levels of achievement.

I. Evaluating and following-up industry services programs. Each industry services program is evaluated in terms of whether or not the objectives of the program were accomplished. Evaluation procedures consist of more than a written or verbal expression from a client company official that the program was effective. Evaluation activities are also interwoven in the process of monitoring all aspects of the industry services activities. Trainee achievement is measured during the course of training. Industry services instructors are interviewed to determine their assessment of the training program.

Client company officials are interviewed during and following the training activities to evaluate the program. Trainees are interviewed after accepting employment with the client company to evaluate the worth of the training program.

Post-project evaluation is especially important during the critical early weeks of plant production start-ups. Detailed discussions and observations of workers' abilities and attitudes will reveal the strengths and weaknesses of the training program. Areas where additional training is needed can be spotted. An initial training program will not solve training needs once and for all. The public training institution provides training as long as it is needed from inception through expansion. The industry services leader continuously assesses industry training needs.

Personnel Needs for Coordination of Industry Services Programs

After the Mississippi industry services program had operated for about two or three years, it became apparent that coordinative personnel were needed to serve in leadership positions. A proposal was drafted, submitted, and subsequently funded by the U.S. Office of Education to prepare a leadership development program. Since a trend seemed to be developing toward the "multiple-agency" approach, partial justification for the study was based on the following:

A. Additional leaders at different levels were needed to plan and operate the state's industry services program.

B. Leaders presently working in industry services programs already employed a variety of competencies which currently need up-grading and expanding, especially in planning, developing training materials, conducting industry training programs, evaluating training programs, and providing general coordination of interagency-industry activities in a local setting.

Each of the functional concepts of the manpower development process -- job development, job training, and job placement -- has been extensively treated in the literature of labor economics, vocational education, labor management, vocational guidance counseling, and industrial development. However, with few exceptions, the focus has been limited to such an extent that only one, or possibly two, of the three integral functions is treated. The study discussed here attempted to articulate the three functions in light of vocational education personnel roles in the total manpower development process, as that process is applied in industry services programs.

There are usually always political, social, and economic elements which must be included in any realistic attempt to improve industry services programs in a community. The study focused on the vocational leader's possible intervention in efforts to improve conditions that are conducive to the conduct of a comprehensive industry services program. For example, he may, at any given time, be involved with any

one or more of the following: (1) engaging in resolving the dissonance problems between helping-agency professionals and the industry-business clients they serve; (2) becoming aware of and spreading understanding of the intricate relations within cooperating agencies where the needs for power of people on different levels of the organizational hierarchy may be in conflict; and (3) determining the myriad power needs of local officials and businessmen, municipal and state legislators, supportive funding sources, big business interests, etc.

These are the elements of Lewin's Force Field Analysis, and any intervention strategy will affect these balanced forces in the community. The decision to provide training for a new incoming or expanding industry, for example, introduces a new power element, a new relationship involving complicated power needs on the part of individuals which might also affect other "actions" ongoing in the community, and which will certainly influence the outcome of the intervention.

Although the vocational education leader, as intervener, may relate in a wide variety of ways to those with whom he is working, all attempts to effect change (in this case, a "start-up" training program) seem to imply two basic attitudes. First, the intervener must make a value judgment about the need for training and decide that it is lacking and needs some kind of "improvement." This is frequently called a needs assessment.

Secondly, in attempting to bring about that improvement, the intervener is claiming to have some particular qualification or expertise for that role. In other words, the intervener sets himself above the people he serves, both in status and in knowledge/skills/competencies and tries to exert influence over the situation to make it "better." The instructional materials that emanated from this study will assist him in acquiring these necessary knowledge/skills/competencies.

This fundamental relationship is unavoidable and yet it must be managed in a way that maximizes benefit to the client populations -- the industry, the cooperating agencies, the community, and the persons at differing levels who participate in the industry services program. This was the central focus of this study.

Briefly, the case made for the study was that the timing and conditions in vocational education in Mississippi and in other southern states were ripe for the beginnings of programs to prepare a new breed of vocational education leader/change-agent; i.e., personnel at various levels to plan and conduct industry/business services programs. Rapid social, industrial, and technological changes are resulting in increased demands for improved vocational opportunities. There is growing belief that improved industry services programs can be powerful agents for change in community development.

Industry services program leader roles are powerful roles. They hold high potential for widespread change in vocational education. They are urgently needed because of: (1) requirements for greater

efficiency and coordination of expanding industry services program efforts; (2) the leverage required to substantially improve the quality of training to better serve present and prospective employee needs; and (3) the specialized capabilities required to effectively implement an emerging, sophisticated technology equal to the complex process of manpower development.

Objectives of the study -- To help meet the expanding need for leadership personnel with specialized capabilities to conduct industry/business services programs, the study was designed to: (1) identify and analyze the performance competencies needed by such leaders in order to successfully administer and coordinate industry services programs; (2) develop and field test an instructional program and materials for training state-area-local personnel who plan, develop, implement, and evaluate industry services programs; and (3) develop a guide to facilitate the utilization of these instructional materials.

General Instructional Program Characteristics

Early in the project it was decided that the instructional program (modules) should contain certain characteristics that would lend potential quality leading to validity. These are discussed here.

To describe the key characteristics of an instructional program to prepare industry services program personnel, at least four things warranted special consideration: the processes applied in industry services programs; the extant job structure for personnel who operate such programs; the specialized skills and capabilities needed, and the extent to which training in those capabilities was currently available.

The model of the functional concepts (job creation - job training - job placement) in the manpower development process, our accumulated experience in conducting employee training programs for more than 50 new and expanding industries, and our research and curriculum development experience led us to believe that the operation of an industry services program could be described best as an occupation, or occupations. An occupation is a group of tasks performed by individuals in order to make a function, or functions, operational.

Hence, specific tasks and capabilities are the components of the three functions: job creation, job training, and job placement. Only estimates were made at the outset about the need for preparation of specific component tasks and capabilities because there was no empirically derived data base to accurately identify all of them. This was an objective of the study. Moreover, availability of a limited and inadequate data base made it difficult to identify accurately all of the existing roles or jobs in the state, area, and local organizational settings which may include component tasks and capabilities of the three functions noted above. Thus, in addition to the need to generate logically, and without adequate data, a description of the kinds

of capabilities required and an instructional program for development of those capabilities, this project acquired systematically the data necessary to further clarify and refine these initial logical descriptions of the instructional program and its requirements.

It was recognized that individuals in a variety of roles or jobs in state and local organizational settings probably had many of the capabilities and performed many of the component tasks and activities of the three functions. Other component tasks were not being performed or were performed poorly. In some cases, no formal preparation may have been necessary to acquire the component capabilities: they may have been learned incidentally, or through on-the-job training. Other skills and capabilities may have been acquired through existing formal training programs, and some skills and capabilities may require preparation at the graduate level.

Based on the foregoing discussion, there appeared to be at least three leadership roles, or possible job titles, that warranted special training consideration in connection with industry services programs: Program Planner and Evaluator, Training Materials Developer; and Training Program Coordinator. Some of the tasks and capabilities identified for a leader role may be common components of one or both of the other leader roles, or they may even be part of some other existing role. Other tasks and capabilities may be unique to a leader role. Certainly, the application, use, or emphasis of tasks and capabilities will vary with the organizational setting where leaders are employed. Thus, the three leader titles were not meant to imply necessarily that three entirely unrelated and new jobs or roles were to be created. Rather, the titles were intended to be indicative of the kinds of tasks which need to be performed and which appear to warrant special training consideration. The earlier activities of the project were designed to supply the data necessary to further clarify and refine these initial descriptions.

A. Program Planner and Evaluator -- It was anticipated that specific tasks and knowledges in the broad functional areas of the identification of training needs and formulation of industry services policies and plans were likely to be among the tasks and knowledges identified as critical performance needs by the survey of practicing leaders. Examples of these performance needs and possible specialized content are shown in Figure 1.

B. Training Materials Developer -- It was anticipated that specific tasks and knowledges in the broad functional areas of the development and testing of instructional delivery systems (i.e., teaching-learning strategies and training materials) were likely to be among the tasks and knowledges identified as critical performance needs by the survey of practicing leaders. Examples of these performance needs and possible specialized content are shown in Figure 2.

Figure 1. Anticipated Performance Needs and Proposed Curriculum Content for Program Planners and Evaluators

Anticipated Performance Needs	Examples of Curriculum Content
--locate, design, and/or conduct industry and community needs assessments, labor market surveys, and occupational performance surveys and analysis	--organization and use of advisory committees (e.g., educators, agency officials, industrialists and employers)*
--interpret and use data from community and labor market surveys to help establish program policy; define the scope and focus of instructional programs; set realistic priorities such that relevant curriculum development and implementation can be accomplished effectively (with available/ anticipated resources) and efficiently (with minimum duplication and wasted resources)	--theory and uses of "decision-oriented" research in curriculum --identification of sources, and interpretations and uses of available survey data (e.g., census data, labor market surveys, Employment Security data, etc.) --survey research techniques*
--analyze and use data from occupational performance surveys to identify, select, and structure relevant job performances for curriculum construction and training consideration	--procedures for construction and using occupational task inventories --guidelines for estimating the near-future character of jobs --procedures for selecting and structuring relevant job performances for training
--evaluate the validity and fidelity of derived curriculum content for the intended scope and focus of training	--ergometrics (measurement of work behavior) --training project management techniques (e.g., Pert, MBO, etc.) --guidelines for preparing terminal job performance objectives --product evaluation theory and techniques

*Indicates content which may be important for two or more specialties and might be presented as part of the core content for common learning experiences in those specialties.

Figure 2. Anticipated Performance Needs and Proposed Curriculum Content for Training Materials Developer

Anticipated Performance Needs	Examples of Specialized Curriculum Content
--efficient and effective management of training materials development projects/teams (including deriving learning objectives, writing/editing instructional materials, designing appropriate media & instructional plans)	--organization and use of advisory committees*
	--curriculum development, project management techniques (e.g., Pert, MBO, etc.)*
	--techniques and experiences in the analyses of trainee group characteristics, instructional requirements; interpretation and use of data to derive trainee performance objectives*
--derive and prepare adequate statements of trainee performance objectives, using terminal performance objectives; derive and state enabling objectives, using trainee performance objectives	--techniques to analyze trainee performance objectives to derive enabling objectives (e.g., R. Gange's tasks analysis and conditions of learning)
--evaluate the structural validity and usefulness of trainee performance and enabling objectives; evaluate the instructional effectiveness of teaching strategies and learning experiences	--techniques to organize and sequence trainee performance objectives (e.g., L. Brigg's hierarchial sequencing)
	--product evaluation theory & techniques*
	--design and conduct of formative evaluation (including basic techniques to design adequate controlled experiments; test and measurement theory)*

*Indicates curriculum content which may be important for two or more specialties and might be presented as part of the core content for common learning experiences in those specialties.

C. Training Program Coordinator -- It was anticipated that specific tasks and knowledges in the broad functional areas of the implementation of training delivery systems and use of instructional materials and teaching-learning strategies were likely to be among the tasks and knowledges identified as critical performance needs by the survey of practicing leaders. Examples of these performance needs and possible specialized curriculum content are shown in Figure 3.

Figure 3. Anticipated Performance Needs and Proposed Curriculum Content for Training Program Coordinator

Anticipated Performance Needs	Examples of Specialized Curriculum Content
--locate and use sources of existing curriculum, instructional materials, and instructional media	--identification and use of a variety of local, state, and national sources of curriculum and instructional materials (e.g., AIM/ARM, ERIC, National Network of Curriculum Centers, industrial materials, etc.)
--know and use local and state information networks	--information sciences; establishing and operating a specialized, technical library/resource center
--assess the quality and relevance of existing training materials for potential implementation	--training program implementation management techniques (e.g., organization & use of advisory committees, other leadership techniques)*
--use data from community needs assessments and labor market surveys to help set priorities for effective and efficient training implementation	--techniques and experiences in the analyses of trainee group characteristics, instructional settings, and instructional requirements*
--work with local training personnel to adapt, modify, and develop necessary support materials for local use of training materials	--theory and research in the change process
--identify state and local decision structures and barriers to training program changes; identify and work effectively with state and local industry leaders to facilitate training program changes	--interpretation and use of community and labor market data to help set priorities for training implementation*
	--produce and process evaluation theory and techniques*

*Indicates curriculum content which may be important for two or more specialties and might be presented as part of the core content for common learning experiences in those specialties.

The study resulted in the development, validation, and field testing of 13 leadership development modules. Their titles are included here.

Industry Services Leadership Development Modules

I. Orientation to Industry Services

- A. Introduction to Industry Services
- B. Industry Services Leadership Development Program: Guide for Using the Self-Paced Instructional Modules

II. Establishing Contacts and Relationships

- A. Speaking to Industrial and Community Groups
- B. Writing Articles for News Media
- C. Identifying Functions of Agencies Involved in Industry Services
- D. Developing a Brochure for Industry Services

III. Obtaining Agreements

- A. Developing Training Agreements
- B. Developing a Lead-Time Schedule
- C. Interpreting Legislation Related to Industry Services

IV. Identifying Training Needs

- A. Collecting Framework Production and Training Information
- B. Selecting Types of Training Programs
- C. Preparing a Budget for an Industry Services Project

V. Acquiring Resources

- A. Selecting Instructors for Industry Services
- B. Securing a Training Site
- C. Securing Training Equipment, Tools, and Supplies

VI. Training Instructors for Industry Services

VII. Preparing for Training

- A. Adapting the Training Site to training Needs
- B. Evaluating Safety Conditions at Training Sites
- C. Announcing the Opening of a Training Program

VIII. Preparing Training Materials

- A. Conducting a Task Analysis
- B. Developing Performance Objectives
- C. Determining Types of Instructional Methods and Media
- D. Developing Performance Tests
- E. Developing Training Manuals

F. Preparing Videotapes for an Industry Services Program
G. Setting Up Learning Centers for Industry Services Programs

IX. Developing a Plan for Testing and Counseling Applicants for a Training Program

X. Monitoring Training Programs

A. Assisting in Providing Pre-Employment and In-Plant Training
B. Developing a Procedure for Keeping Participating Agencies Informed About Training Program Activities
C. Monitoring Training Programs for Progress and Expenditures

XI. Closing Training Programs

XII. Developing a Plan for Placing Graduates of a Pre-Employment Training Program

XIII. Evaluating Industry Services Programs

Summary

Industry services programs require intensive coordination on multiple-agency and multi-level bases. Such programs have great potential in making community development succeed. The need for coordinative leadership personnel is readily apparent and this problem is being properly addressed in Mississippi and the states of Florida and Oklahoma which cooperated in the leadership development project. Such are the coordinated contributions that vocational education is making to community development in Mississippi.

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COMMUNICATION STRATEGIES IN PUBLIC POLICY DECISION MAKING: AN ANALYSIS OF PROCESSES IN MAJOR NEEDS ASSESSMENT MODELS FROM A SYSTEMS POINT OF VIEW*

By
Dr. Belle Ruth Witkin**

On a recent trip, I overheard a conversation in an airport limousine between two affluent young mothers, to this effect: "Government money given to the schools is rather frightening. One year all the children in the school can read. The next year, there are government funds for reading, and suddenly 50 percent of the children can't read!"

Who decides what the critical needs are in the schools? How are priorities set? And what role does communication play in the process?

The scramble for Federal dollars for categorical aid to schools, which has been a feature of the educational scene in the last decade, has changed the rules of the game. Since the passage of the elementary and Secondary Education Act of 1965, hundreds of millions of dollars have been awarded to school districts for compensatory education for the poor and disadvantaged, library materials, innovative programs, education of the handicapped, bilingual education, and special programs for dropout prevention. The act also set up regional educational laboratories (research, development and dissemination centers), and provided funds to improve state departments of education.

The justification of requests for these funds has led to the development of new and more systematic methods of educational needs assessment. In turn, needs assessment has become a paradigm for a new kind of public policy decision making which is having far-reaching consequences for public education.

Needs assessment is generally a joint school-community effort in which the communication methods used may be absolutely crucial to the validity of the results. The purpose of this paper is to examine the role of communication processes and stategies in the most widely used needs assessment models and to analyze the changes that have taken place in communication networks as the concomitant of changes in school-community interaction. I will be taking a macro view of the processes

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as they operate in a systems context in local school districts (LEA's) and in state department of education (SEA's).*

I will also discuss some issues related to the move toward participative management in educational systems and suggest some implications for organizational communication research.

Needs Assessment and Accountability

A major characteristic of educational policymaking in the last decade has been the growing demand for accountability in public education. Federal and state legislatures and local communities have required that school districts document their needs and provide a rationale for the way in which they spend their funds. Important outgrowths of this movement have been:

1. The rise of systems approaches to educational planning and evaluation including PPBS.

2. The involvement of various sectors of the non-educational community in educational goal setting.

3. The participation of lay advisory committees in planning, implementing, and evaluating new programs and projects.

4. The active participation of all sectors of the community in assessing educational needs and setting priorities for immediate and long-range program planning.

As a consequence of these developments, a number of needs assessment models and data gathering instruments and procedures have emerged. Some were produced by school districts, state departments of education, or institutions of higher learning. Some have been published by educational consulting firms or regional research and development laboratores. They range from paper and pencil surveys and simple Q-sorts to elaborate and comprehensive systems, packaged as kits, for carrying through the entire process from goal setting to prioritizing needs.

Needs assessments are undertaken, then to gather data for decision making--specifically, on setting priorities for allocation of funds and for short- and long-range planning.

The process may take from a few weeks to a year or more, and in almost all cases, it involves some type of structured communication setting and a variety of communication strategies for arriving at decisions. Models may combine data collection and analysis procedures of varying degrees of sophistication with variations of town forums, the Delphi technique, small group discussions, or structured group tasks.

*Recently institutions of higher education have also begun conducting needs assessments, but their efforts are still too new to tell what the major trends will be.

The success of the needs assessment often depends almost entirely upon the effectiveness of the communication processes at all stages and particularly on the free interaction and resolution of discrepant perceptions and conflicts among the different publics involved.

Although there have been many published reports of needs assessments, including descriptions of methods used and results obtained, there have been very few critical or evaluative studies, and only two or three in which the communication parameters have been directly addressed.

Definitions

The most commonly accepted definition of a need is "the measurable discrepancy (or gap) between current outcomes and desired or required outcomes" (Kaufman, 1972). Variations of this are: "the difference between 'what is' and 'what should be'"; "the discrepancy between 'what is' and 'what is required'."

A needs assessment is a procedure for determining, at a minimum: (1) the desired state of affairs in respect to the area being assessed, (2) the present conditions which exist in that area, and (3) the determination of the kinds and degrees of discrepancy which exist between (1) and (2).

Needs assessments can be directed to learner needs, institutional needs, or both. Learner needs are usually stated in terms of some desired performance. Institutional needs may refer to programs, resources, or management.

Components of Needs Assessment

Although there is considerable variation among needs assessment models as to their contents and procedures, a complete model will generally have four components: (1) statements of goals, or desired states, which are ranked in order of importance, (2) procedures for ascertaining the present status of those goals or states, (3) methods for identifying and describing discrepancies between the goals and the present status, and (4) methods for assigning priorities to the discrepancies found in step 3.

Many models focus on the goal setting and ranking process. In fact, "goal setting" is sometimes (mistakenly) taken as synonymous with "need identification." Some models ascertain "what is" solely through perceptions of various publics; others use achievement test scores, demographic data, and other fact-finding methods. Discrepancy analyses range from simple methods based on differences between two sets of ranks to complex correlation methods and decision rules.

Descriptions of a number of published kits, guidebooks, and needs assessment instruments will be found in the Appendix.* They indicate the variety of approaches and emphases, as well as the features held in common.

*The Appendix is available on request from the author.

Needs Assessment in a Systems Context

Figure 1 gives a model of basic system-environment relations, which is appropriate for the analysis of needs assessment by school systems. In the typical needs assessment situation, the system is a school district with well-defined geographical and physical boundaries. It operates in an environment which is defined by its assigned attendance area, and in a still larger environment, less-well bounded, of a municipal or similar political unit. In turn, the system with its immediate environment is a subsystem of the state educational system, and finally, of the entire country.

The instructional system consists of interactions and interrelations among six components: the learner, the teacher, the curriculum, the relevant methods-means-media, the learning environment, and the learning. The valued targets are future-oriented states of expectations, goals, objectives, needs, problems, and/or demands that generate forces for instructional change. Such targets establish significant relations between an instructional system and its environment and predicate the system's purposes and output requirements.

Outputs are goal-oriented products, services, and/or benefits that the system produces and/or effects as a result of its performance. Inputs are resources, energy, and information used to maintain the system or which are transformed into instructional outputs.

Feedback control establishes a "closed-loop" pattern of relations in the system by transferring information regarding the quality of outputs back along the feedback loop and comparing it with information available to the system and/or individuals as inputs, enabling the system of its members to improve the quality of performance.

Communication and the Education System

Before discussing specifically the role of communication in the needs assessment process, let us take a look at typical lines of communication within an educational system and between the system and its environment.

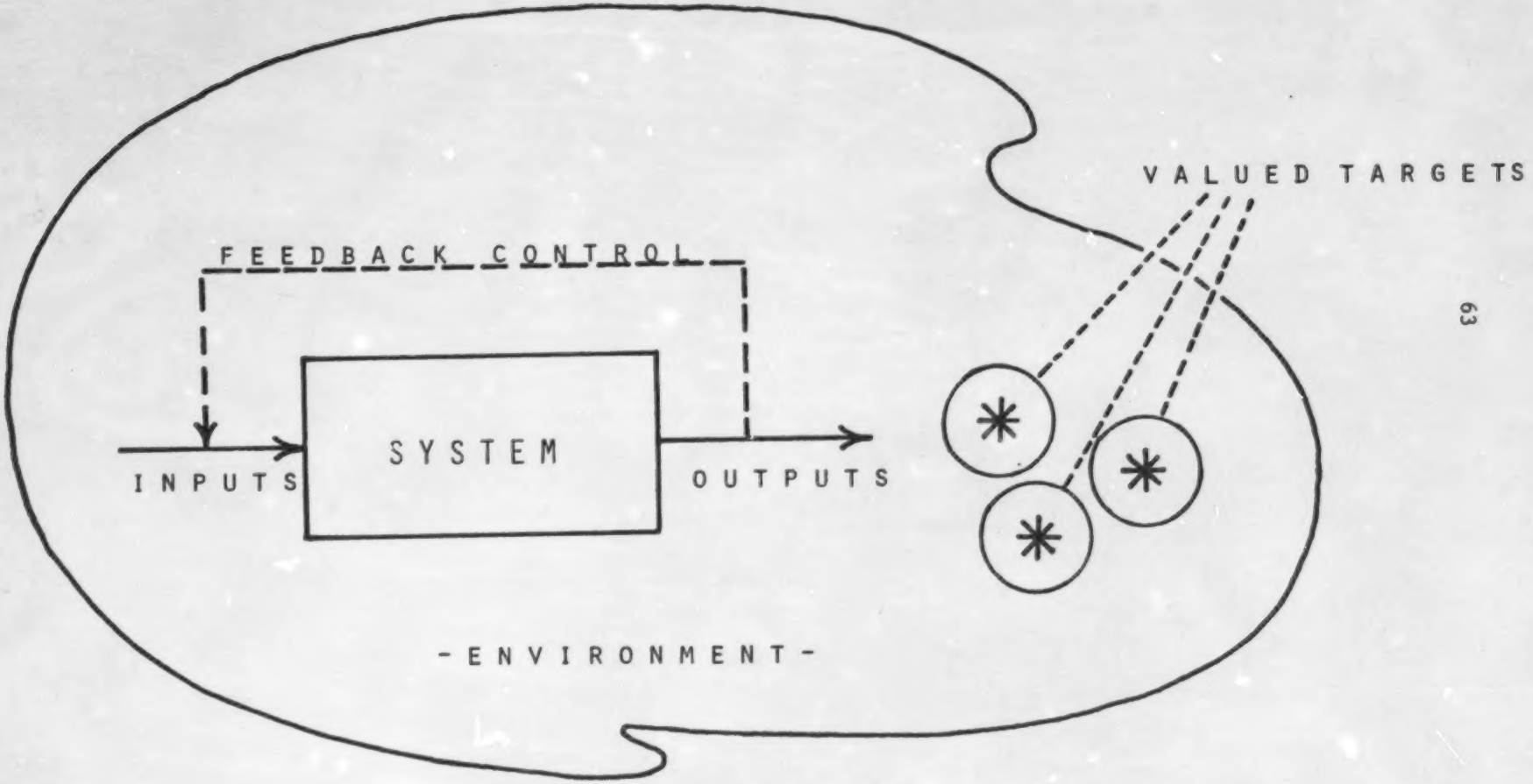
Overlaid on the model of system-environment relations can be placed a model of the communication process. Taking into account the linkages of source, message, channel, and receiver, we can describe typical communication patterns and flows under two types of systems, open and closed.

School systems have until recently operated as closed systems from the standpoint of information flow for decisions on goals and planning. That is, most of the information came from within the system itself. Although in a general way the goals of education (often not specifically described and recorded) came from outside the system, being the general goals of a presumably educated citizenry, it was rare that people outside the system were consulted or listened to in formulating goals and needs.

Communication in such systems tended to be hierarchical, top-down, and directive, with little input from outside the system. That is, policies and plans were usually formulated at the top and communicated downward from

FIGURE 1

A MODEL OF BASIC SYSTEM-ENVIRONMENT RELATIONS



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administration to teachers to students. Except for the role of elected school boards, parents and others in the community were viewed as recipients of information about the school's programs or about the progress of individual students. Decision making rested almost entirely within the system. Information outward was designed to elicit support, mainly financial.

Traditionally, then, the sources of information for planning and decision making were typically from persons within the system, and the flow was apt to be from the top down. The major sources of decision were the school board and administrators.

The messages were typically policies, plans, procedures, and directives related to the implementation of curricula, the operating procedures of schools, and the maintenance of plant and facilities. The receivers were teachers, students, and to a lesser extent, parents.

Channels for such communication tended to be preponderantly written rather than oral. Manuals, guidelines, curriculum guides, dress codes, letters to parents, bulletins, newsletters, and the like carried the bulk of the messages. Public meetings, hearings, organizational meetings such as P.T.A.s and schools' "open house" nights constituted major ways of informing the public about the educational program and its accomplishments.

Since the local school system is a subsystem of the state, it of course receives mandates and other communication from legislative and state department of education sources. Again, this communication tends to be top-down, one-way, and hierarchical, with little feedback or upward communication. Lateral or horizontal communication exists among districts and among individual educators through a variety of professional organizations. Informal networks exist but rarely influence goals or policy.

The foregoing description sounds very much like the communication flows and decision-making processes characteristic of System 1 or System 2 organizations (Likert 1967)--and indeed, that is the case. Kaplan (1973) notes that prior to the mid-1960's, in what he calls Stage I, educational planning was essentially prescriptive--its function was to facilitate and support a set of a priori assumptions. These included as "givens" that the values and goals of the system were appropriate and acceptable, and that the structure of the system was generally satisfactory.

Communication in Open Systems - The Influence of Needs Assessment

Although many school systems are still in Kaplan's Stage I, significant changes have come about in the last decade, leading to what Kaplan designates Stage II of educational planning. During Stage II, educational planning has been primarily to promote efficiency in the system, with heavy emphasis on systematic means to improve the performance and product of the educational enterprise.

Kaplan holds that currently we are seeing another phenomenon.

> "Prior assumptions accorded the educational system and its functioning are no longer held as sacrosanct. Now, educational planners are increasingly concerned with an ascriptive role. What should be the purpose of education? Whom should it serve? What segments of society are presently disenfranchised?...What

basic changes in structure, methodology, and program are warranted and how can these be realized?" (Kaplan 1973, 3.)

Out of these trends and developments have grown the concept and practice of participatory planning. Kaplan notes that in this early stage of evolution, appropriate and effective measures of participatory planning remain to be more thoroughly developed and refined. He raises three major concerns: (a) the process of communication, (b) the quality and use of data, and (c) the nature of group dynamics and the interpersonal exchange (Kaplan 1973, 6-8).

[It should be recognized that there have been several forces at work since 1965 to bring about changes in the schools, both as to communication and as to management structure and style. Influences from the business world and the military led to concepts of systems analysis and systematic planning. Administrators became managers, but also change agents (The Administrator and Organizational Renewal 1973; Blanchard and Henry 1973). Administrators began to introduce particpaotry planning into their systems (Kaplan 1972, 1973), and to attend workshops in organizational development.

It is in this context of constant new demands and influences on the schools to become more innovative yet systematic, responsive to change yet planning ahead, participative yet productive, that needs assessment strategies and concomitant communication processes must be viewed. For needs assessment has become both an antecedent and a presumed potent vehicle for the fulfilling of all these demands.]

To return to the communication parameters:

When needs assessment models of any type are consciously and systematically implemented in a school system, these changes tend to occur:

--The source of information for decision making becomes the parents, students, teachers, classified staff, employers, and various segments of the surrounding community, rather than the legislature, the school board, or the administration. That is, there is much more communication from the environment to the system, and from below upward.

--The messages are various. They may be lists or statements or aggregations of concerns, wishes, problems, causes, solutions, or gripes. Depending on the type of model used, the messages may be open-ended and unstructured, or they may be structured and limited. but they tend to be quite different from other types of communication in the typical closed system. Most models include provision for messages which require various kinds of judgments from the informants or participants--such as rating goals or objectives for importance, and making judgments of the extent to which those goals have been attained in a school.

--The receivers are those in planning and management positions. At the school level it might be only the principal, or the principal and a committee of faculty. But it might also be a planning or management team composed of top and middle management, faculty, students, parents, and perhaps representatives of employers in the community.

--Finally, the channels tend to be quite different from those in Stage I systems. Written channels are typically paper-and-pencil surveys, questionnaires, and rating scales. Spoken channels may be structured interviews, community "speak-ups," structured concerns conferences where participants perform certain decision-making tasks in small groups, and small group focus interviews.

Figure 2 shows the relationship of the communication linkages in needs assessment to the input-process-output flow of a system. No one assessment model uses all of the communication strategies shown, but any model can be described with these parameters. (None of the column lists should be regarded as complete.)

The communication networks, flows, and patterns which characterize needs assessment models indicate a trend toward System 3 structure (Likert 1967) and toward participative management (Campbell 1974, Kaplan 1972). The relationship between communication in needs assessment and participative management in schools will be discussed later.

Needs assessment, then, has produced new kinds of communication in educational systems. There is much more communication across system boundaries than before, in different directions, and for different purposes.

Referring again to Figure 1, the "valued targets" are now consciously sought by school managers, and crystallized as the first stage of the needs assessment effort. The boundaries between the system and the environment are much more fluid, and communication is two-way, rather than one-way. Within the system, information from the needs assessment acts as a feedback loop to generate new inputs for system planning.

There is no one universally accepted model of needs assessment, although most have been derived in a general way from Kaufman's discrepancy model developed in a system context (1972). Researchers at the Northwest Regional Educational Laboratory have published a model describing a planning and evaluation cycle consisting of five activity clusters, moving from needs identification→problem-policy transformation→policy-program transformation→tactical program design→monitoring, with detailed intercommunication links among them, through associated management information systems (Bell, Hagans, Harper, and Seger 1971). Figure 3 illustrates Cluster A in the cycle--needs identification. Their description of Cluster A sums up the process for a theoretically complete needs assessment.

> "Two groups of constituents are used in determing (1) the expectations (what should be), and (2) the actual situation (what is) in the educational system. Group 1 includes clients (students and parents), client users (businesses, agencies, and industries), legal bodies, educational agencies and existing studies which comprise the major sources of information about system expectations. Group 2 includes educational institutions, legal and legislative bodies, governmental agencies and existing studies which provide facutal information about the

FIGURE 2

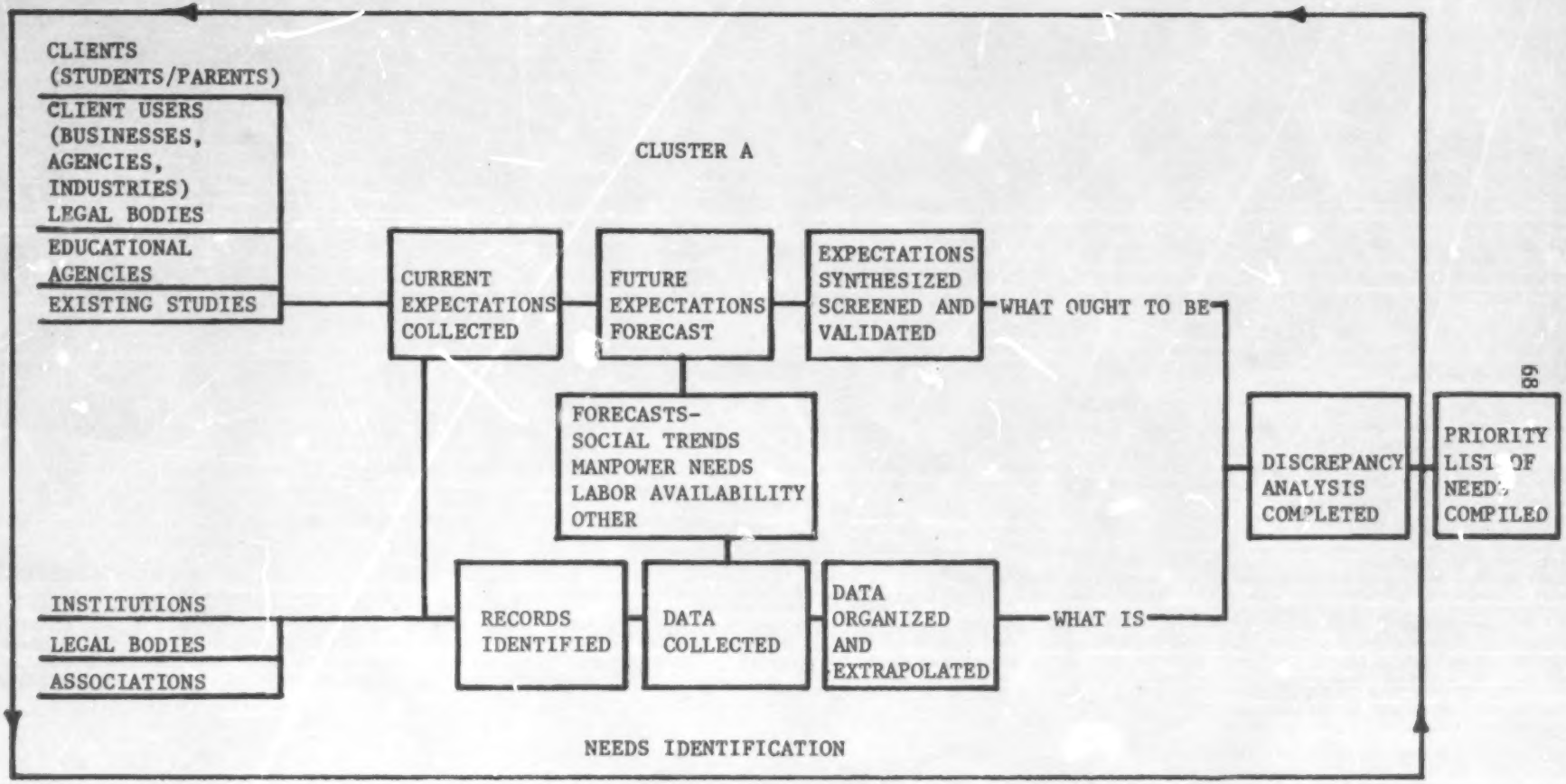
COMMUNICATION LINKAGES OF NEEDS ASSESSMENT
IN A SYSTEM CONTEXT

Inputs		System Processes		Outputs	
Sources	Messages	Non-Interactive Channels	Interactive Channels	Messages	Receivers
1.0 Internal to system	1.0 Goal statements	1.0 Written Surveys	1.0 Group Q-sorts	1.0 List of goals ranked for importance	1.0 Internal system
1.1 Board	2.0 Judgments of goal importance	2.0 Rating Scales	2.0 Small group discussion	2.0 Lists of goals ranked for attainment (perceived or actual)	1.1 Planning -Staff -Parents -Students
1.2 Management	3.0 Judgments of system responsibility to implement goals	3.0 Individual Q-sorts	3.0 Focus group interview	3.0 Ranked learner needs	1.2 Policy -Management -Board
1.3 Staff	4.0 Perceived status of goal attainment	4.0 Public opinion polls (individual interviews)	4.0 Committees	4.0 Ranked institutional needs	2.0 External system
1.4 Clients (students)	5.0 Expectations of future states	5.0 Delphi studies	5.0 Community "speak-ups"	5.0 Statements of discrepancies--quantitative -qualitative	2.1 Clients
2.0 External to system	6.0 Values	6.0 Critical Incident Technique	6.0 Games	6.0 Priority list of "needs"	2.2 Users
2.1 Clients (parents)	7.0 Concerns	7.0 Written futures scenarios	7.0 Role-playing	7.0 Recommendations for action	2.3 Legal bodies
2.2 Users--business -agencies -industries	8.0 Performance data		8.0 Group scenarios (future games)	8.0 Reports	2.4 Legislative bodies
2.3 Legal bodies	9.0 Demographic data		9.0 Modified Delphi (interactive)		
2.4 Other educational agencies					
2.5 Existing studies					

FIGURE 3

NEEDS IDENTIFICATION

(Cluster A)



75 Northwest Regional Educational Laboratory
Bell, Hagans, Harper, and Seger 1971

present operation of the educational system. These groups participate in the two following areas:

"1. Current expectations of the nature, function, and objectives of education are collected from Group 1 followed by future expectations which are forecast on the basis of existing studies and projections of social trends, population change, manpower availability, etc. Current and future expectations are then synthesized, screened, and validated. (Synthesis involves the combination of expectations and distillation of need statements from that combination.) Decision makers, guided by policies and values, screen the need statements to identify those needs which can be appropriately satisfied (in the sphere of education) through educational activity. The validation process then takes revised statements of expectations or needs back to the reference groups which first generated them and establishes their accuracy. An example of a need statement is, "Students need to experience the acceptance of responsibilities and to learn to make decisions." Statements of needs are then transformed to observable indices which are measurable.

"2. Once needs have been identified and stated in measurable terms, relevant data (what is) can be collected; this data can be thought of as baseline information. Pertinent records in the institution implementing the system then can be identified and the necessary data gathered. If current records do not contain data relative to a need, then additional information is collected. The resultant data block is then supplemented by forecasts from sources not involved in implementing the planning system. The total body of data then is organized and extrapolated.

"'What is' and 'what ought to be' (1 and 2 above) are synthesized to permit analysis of the discrepancies. The magnitude and significance of these discrepancies is then determined. The resulting list of priority needs is the output of Cluster A."

(Bell, Hagans, Harper, and Seger 1971, 9-11)

Communication Methodology

Very few needs assessment models have been field tested and evaluated. However, some studies have been undertaken on the feasibility of using certain processes or methods.

Public opinion polls. Gish (1972) tested the feasibility of public opinion polling of the Gallup/Kettering model at the local district level. He designed a questionnaire and a method that could be replicated locally, at a cost of $2,000-$10,000 if done "in house." Many

regional and statewide studies have incorporated such public opinion polls in their assessments, in Maryland, New Jersey and Colorado, for example.

Speak-ups. One of the earliest large-scale community involvement assessments was done in Fresno, California, where 10,000 participants were soliticed in the community. The Speak-up was promoted through the mass media, talks to community and civic organizations, and P.T.A. councils. The method was neighborhood "discussion parties," each with an average of six to eight participants.

Discussion leaders were asked to "hold a small information party. Invite a few. . .people to discuss aims and objectives for our public school system." The project provided questions to guide the discussion, and a discussion leader's and a participant's guide (Speak-Up 1968).

Charrette. Some communities have adapated the Charrette to needs assessment. Charrette is a variation of group process to involve a variety of groups in the community in facilities design. The Charrette is based on the belief that effective decisions can be made by group interaction and general consensus before issues grow into formal disputes. Representatives of all parties having responsibility for or connection with the project are involved from the beginning. Procedures have been developed to arrive at all decisions openly, to communicate the reasons for accepting or rejecting a proposal, to generate as many creative solutions as possible in a short period of time, develop them, and come to some basic decision.

Groups do not use voting, but the final rounds involve debating the merits of each proposal in an open meeting. Finally, the Charrette makes as many final decisions as possible through common agreement and designs a process for resolving proposals that are deadlocked (Mylecraine n.d., 189-191).

Peccolo (1971), in a three-county study in Tennessee, evaluated the Charrette and found it effective for identifying educational needs and planning new programs.

Focused interviews. One of the few studies reporting the refinement of a communication research methodology for needs assessment was done by Blackwell and Joniak (1974). One purpose of the research was to determine if parents of heterogeneous background, who have children of high school age, have specific goals for the education of their children, and if these goals could be elicited during an interview. The authors did three studies and developed four components to the method: elicitation, simplification, categorization, and prioritization.

Goal statements were reduced, refined, and categorized in stages. The authors concluded:

> "An assessment of the content of the goal statements suggests that parents' goals for secondary education are based on their own personal experiences and those of their children. This assessment is supported by the lack of concern for innovating educational changes. However, it can be concluded that parents definitely do have goals for the education of their children and that those goals can be elicited in an interview" (Blackwell and Joniak 1974, 22).

The focused group interview was used to gain insight into needs that surfaced in a statewide study using a questionnaire (Phase II: An Assessment of Educational Needs for Students in Washington State 1970). Researchers conducted 34 group interviews, averaging two hours each. The interviews were taped, transcribed immediately, and contents analyzed. The classification scheme was reviewed by a second analyst to eliminate bias.

Telecommunications. In order to research groups not adequately serviced by the schools, a UHF television station owned and operated by a community college district in Southern California used videotaped panel discussions (KOCE-TV Needs Assessment Surveys 1974).

As one part of a research project to determine the educational and public service needs of the service area, they held meetings of 10 discussion panels: professional and white-collar workers, Mexican-Americans, senior citizens, blue-collar workers, handicapped, fifth and sixth grade children, and college-level educators. Discussions were videotaped at the KOCE-TV studios. Five groups of community lay persons (N-154) were later invited to the studios to review the tapes and to provide reactions to the opinions of the original panel participants. The project was funded by a grant from PBS.

The conclusions was that:

> "There is a need for grassroots involvement in developing educational and public service activities. Sooner or later every group with which we talked brought out the necessity for personal contact and human-to-human interface as important components" (KOCE-TV Needs Assessment Surveys 1974, 31).

They wanted close and meaningful liaison with the community, not rubber stamping of community advisory groups.

A feature of the goal-setting phase of a two-year project in New Jersey was the active use of all available mass media to promote support and cooperation for the project. A special campaign was instituted, using television commercials, an eight-minute orientation film, radio spot announcements, newspaper releases, and special publications and reports, including several official communications from the Commissioner of Education to all local school districts (Kaplan 1972).

This use of mass media to encourage a flow of ideas and information into the educational system is in sharp contrast to past uses, which have been largely limited to disseminating information when educators solicited support for an upcoming election or bond issue.

Delphi technique. Many needs assessment studies have used the Delphi technique or a variation of it to achieve consensus on goals, concerns, or other items. The Delphi method was developed at the Rand Corporation to organize and share forecasts about the future by experts (Helmer 1966).

Weaver (1971) capsulizes the procedure:

> "Typically, the procedure includes a questionnaire mailed to respondents who remain anonymous to one another. Respondents first generate several rather concise statements of events, and in the second round give estimates as to the probability of each event occurring at a given date in the future. Once the respondents have given their answers, the responses are collated and returned to each respondent who then is invited to revise his estimates. The third-round responses are made with the knowledge of how others felt regarding the occurrence of each event. Again, the responses are assembled and reported back to the participants. If a respondent's estimate does not fall within the interquartile range of all conjectures, he is asked to justify his position, whether or not he wishes to change his position" (Weaver 1971, 267).

Its principal features, then, are anonymity of the respondents, iteration and controlled feedback, and statistical group response.

Delphi can be used to gather responses on criticality of goals and areas of greatest need, and to arrive at consensus on present attainment of goals, among other uses. In practice, the mailed questionnaire has not been used extensively in educational applications. In some variations, groups meet fact-to-face, but methods are employed that ensure the anonymity of individual responses. The intention is to make certain that estimates reflect rational judgment, and that individuals' perceptions will not be swayed by the influence of opinion leaders in the group.

Delphi technique has been used by the Institute of Government and Public Affairs at the University of California, Los Angeles, to generate perspectives on changes in American education. A study was also done at the University of Virginia to assess scientifically the needs, desires, and opinions of the clientele. The latter involved 400 respondents, rather than the usual 50 or fewer; the respondents were not necessarily experts in the field, and the technique was used to reach agreement on what should happen, rather than to predict what will happen (Cyphert and Gant 1971).

A somewhat different application has been made by TARGET (To Assess Relevant Goals in Education Together) which combines the Delphi technique with a game procedure (Wishart 1972).

The information produced by the Delphi process in TARGET results in five indices: educationl goal, quality of life, perceived achievement, priority, and education trend. Statements for each index are derived from people meeting in groups, but writing their own statements anonymously. Procedures are described for sorting, categorizing, and ranking the outputs for each index.

The Delphi procedure is used to obtain baseline data. The game procedure of TARGET is a variation of the Q-sort. In the game phase, larger numbers of people have an active role in furnishing information pertinent to deicision making about priority areas of need.

Cunico (1973) also verified the Delphi technique as a valuable research instrument for gathering data on needs and future directions from professional persons who could not otherwise be gathered into one group without much effort and expense. He used it to ascertain future directions for industrial education.

Delphi has also been used to identify goals and program directions for the shcools of Washington State (Rasp 1972) and as part of the methodology to design a universal model for the school of the future for the Dallas-Fort Worth "metropolex"(Skyline West Educational Plan, October 1974).

Weaknesses of using Delpbi for forecasting have been pointed out by Weaver (1971). They will not be summarized here. However, Weaver believes that Delphi, in combination with other tools, "is a very potent device for teaching people to think about the future of education in much more complex ways than they ordinarily would."

In needs assessment and policy making, however, Delphi is often used not to forecast the future but to set goals and priorities and to think in a more complex way about the potential needs of learners and institutions, given alternative futures. It may become increasingly useful for doing needs assessments across large geographical areas.

Methodological Issues and Problems

Cross-cultural communication. Communication with minority racial, ethnic, or language groups has received scant attention in needs assessment models, although many pay lip service, at least, to the involvement of "all sectors of the community." Two or three survey instruments have been translated into Spanish. Little inquiry has been undertaken, however, on cross-cultural considerations in methods used.

Moore and Senegut (1973) report the use of certain needs assessment techniques which had as their aim the development of more open communication between native Alaskans and the white population. The Center for Northern Educational Research at the University of Alaska developed a method of statewide community participation in needs assessment. Core staff were a well-known Eskimo artist and writer, a Tlingit Indian teacher with a master's degree in school administration from University of Alaska and with Peace Corps teaching experience, and a white teacher with a master's degree in elementary teaching.

In six regional workshops they used small groups, large groups, shared meals, films, and role playing. They considered the factors of physical surroundings of meeting areas, grouping of people, degree to which the agenda was structured, and direction taken by speakers and consultants.

In the effort to foster more meaningful communication between the whites and native peoples, they paid considerable attention to group arrangements, status factors, and kinesics. They concluded that the fostering of communication channels was "difficult, painful, arduous, and frustrating" for the staff members, consultants, and participants.

Aside from this study, there have been almost no guidelines for involving minority groups or non-English-speaking parents and citizens in goal setting and needs assessment.

Sampling. Communication problems are often compounded by inadequate sampling techniques. Although many models offer guidelines for sampling, in practice I have found that adequate sampling of the various publics is usually done only when external consultants assist with the assessment. When districts or schools conduct their own, they tend to involve the public in ways such as these: issue a general invitation to interested parents to attend a meeting or conference; appoint a faculty-parent committee and have them ask their friends, or augment the committee at their own discretion; use existing school-community advisory groups, which may be heavily weighted with parents of children in compensatory education programs; make door-to-door surveys by neighborhoods.

Reliability and validity of inputs. Most models rely heavily on perceptions or judgments of respondents regarding the relative importance of goals ("what is"). They also may ask for judgments on programs the schools should undertake, or priorities for budget cuts or reallocations.

The reliability of such judgments relates to stability over time and discrepancies in ratings among client groups. Ritter (1966) found that respondents' views changed after factual information was supplied. Rasp (1972) found greater variance in responses stated as process statements than to those stated as products or educational outcomes. Delphi studies usually show a convergence of opinion after two or three rounds, but the first round may show wide variances.

Since the majority of needs assessment models do not use Delphi, and in fact are "one-shot" efforts with little or no input to the participants on factual data about the schools or on the responses of others, it is evident that the outcomes of needs assessments can be heavily influenced by methodology used.

Although Neff (1973) found significant agreement in perceived priority of needs among lay citizens, teachers, and students in rural and suburban communities, other studies have not borne out this agreement (Kaufman 1972). Dell (1974) using a magnitude estimation scaling technique, not only found large discrepancies among parents and faculty, and between male and female parents, as to the order of ratings, but very great difference in magnitude of the scale between the ratings for each group. In ranking four science objectives, for example, the lowest ranked objective for one client group had a higher scalar value than the highest ranked objective for another group. Thus, different types of communication elicited may result in very different pictures of consensus or disagreement among groups, and thus give very different bases for decision making.

A serious question also arises regarding the validity of clients' judgments of present attainment of broadly stated goals when these are not confirmed or supported by achievement test scores, criterion-referenced measures, or other "objective" data. An estimated 10,000 school administrators have attended workshops to assist them in implementing a popular model which relies exclusively on subjective judgments of goal importance and goal attainment.*

Risks to the organization. Attempts to introduce participative management in a system and to involve the school and parents in assessing needs have sometimes resulted in considerable resistance and worsened communication. In a three-year study of a school district in Ohio (A Profile of Change 1973), a needs assessment performed by Battelle Institute at district request, and various resulting programs to increase participation in planning, were strongly resisted for a variety of reasons. In the third year, all groups but students felt the communication problems had actually become worse!

Blanchard and Hersey (1973), discussing participative and coercive change cycles, have sounded a warning on attempting to implement a change or introduce participation without incorporating the appropriate communication strategy. Furthermore, it is important to know what is the present communication structure. A system previously run on coercive principles will find staff more dependent on administration leadership and less ready for an open system.

Kaplan (1972) gives an insight into an unanticipated problem in connection with participatory goal setting statewide in New Jersey:

> "This decision carried with it some consequences that were not entirely unforeseen. Educational groups, including teachers, administrators, and school board members took issue with this approach (placing major emphasis on the public's input and the limitation on the educational contingent). Many regarded the project as a thinly disguised effort to diminish their influence in educational affairs. They were also suspicious over whether the Department of Education did not have an ulterior purpose and that it was perhaps concealing an already developed master plan for introduction at a later date on an unsuspecting public and a reluctant profession" (Kaplan 1972, 8).

Preliminary evaluation of the Almeda County Needs Assessment Model (Witkin 1974), which was field tested in some 430 schools in California during January-June 1975, corroborates that a small percentage of parents and teachers are, in fact, suspicious of such efforts. Some viewed the questions as an attempt to impose a point of view, rather than an honest request for information from them. Both negative and positive feelings about their involvement were strongly expressed.

*Phi Delta Kappa model--also Appendix. The model has been widely copied and implemented. Case studies indicate that its popularity derives partly from "increased communication among participant groups."

Trends in Public Policymaking and Communication Links

An unanticipated side effect of the 10-year thrust toward public involvement in wide-scale needs assessment (inter-system), and in the encouraging of horizontal and upward flows of communication (intra-system), has been the rise of new formal and information communication linkages which exert a subtle but real force on decision making by legal and legislative bodies.

Clasby (Clasby, Webster, and White 1973) has drawn attention to the intended and latent consequences of the recent period of heavy Federal initiative on partnership in educaion. The various titles of the Elementary and Secondary Education Act of 1965 placed a heavy responsibility on state departments of education to collect and assemble educational information on a wide range of topics.

The legislation provided resources for strengthening the capabilities of state departments of education. At the same time, there has been the emergence of increasing interstate cooperation of educational authorities and the rapid development of interstate coalitions and associations with constituencies at the level of local school districts.

These coalititions, such as the Council of Chief State School Officers, the Educational Commission of the States, the National School Boards Association, and federal planning bodies that participate with interstate agencies, have formed a new network of formal and informal communication. What we see emerging is a different kind of political structure for the formation of national educational policy. Clasby suggests that this development, which has a countervailing influence on Federal initiatives, would, if carried very far, modify the political relations between the legislative and executive branches of the Federal government with respect to issues of educational policy.

Clasby notes that the emergence of new educational coalitions at the national level is still so new that the implications are not yet clear. She points out:

> "The nationalization of educational issues through dramatic court decisions has set the stage; instant communication possible in today's society has helped to set the actors in motion. These national groups exist; their capabilities are apparent. . .It is the character of the expectations proposed to them from multiple publics, the kinds of demands and the kinds of support they receive, that will determine what role they play in the educational enterprise in setting directions and priorities" (Clasby, Webster, and White 1973, 49).

Webster (Clasby, Webster, and White 1973) argues that the growth of legislation mandating statewide assessment of schools and school systems may unnecessarily shape the goals of schooling itself and determine the shape that the policy-planning process will have to take.

> "In short, in this body of 'accountability legislation' we may be about to give statutory definition to educational goals and to do so in ways that are limited to quantifiable outcomes that can yield data useful for legislative and administrative determination of efficient allocation policies" (Clasby, Webster, White 1973, 4).

In the same document, Green points out that there are subtle aspects of how goals for the American educational system are being shaped, and that they may be shaped under the guise of doing something else.

In fact, there are two opposing forces at work at both state and national levels in shaping public educational policy through goal setting. On the one hand, local school systems have been given the responsibility to develop goals and set priorities through massive involvement of the community, and through procedures which enlarge the possibilities for lateral and upward flow of communication within and between systems. On the other, state and Federal accountability legislation, by instituting massive testing programs of students in certain narrow areas (mainly reading and mathematics), in effect define the high-priority goals of education for all, ragardless of what other needs are communicated through the local needs assessment process.

A recently noted phenomenon in California education is an "invisible network" of the 20 largest school districts in the state. At various times the network may consist of top or middle management, at others of directors of research departments. This network is increasingly consulted by State Department of Education department heads when policy or procedural changes are forthcoming, and the districts have become an information testing ground for new approaches to goal setting and need identification.

Needs Assessment And Organizational Communication

Research in organizational communication in business and industry has shown that the communication quality of organizations is directly and significantly related to organizational performance and that shared power approaches, including group problem solving and decision making, are more effective in changing an organization than either unilateral or delegated authority approaches (Hain and Tubbs 1974). Relationships between certain patterns of communication and decision making, on the one hand, and organizational structure and management style, on the other, seem fairly well established as well (Likert 1967).

Hain and Tubbs (1974) have proposed a basic model to study organizational effectiveness and communication in business organizations. Some such model is needed for the study of organizational communication in school systems and in school-community system interfaces.

On the face of it the rapid spread of strategies for involving the public in shared goal setting and needs identification, and the reversal of direction of information and decision flows within the system, should lead to much more satisfaction for all concerned--and to better quality education as well. Yet this is not necessarily the case. Instead, as the Westlake, Ohio experience referred to earlier shows, concerted attempts to improve communication may actually worsen it.

An important variable is the source of the impetus for conducting a needs assessment--i.e., is it required by an external funding source (thus seen as coercive), or does it develop out of participative planning efforts initiated within the system (thus seen as self-directive and innovative)? A second variable is timing. Does the needs assessment follow some

efforts at internal organizational development and improved communication flow? Or does it precede such efforts, and thus impose System 3 communication and decision patterns on System 1 or 2 management structure?

A third variable is the credibility of the educational system in the eyes of its constituency. If communication has previously been hierarchical, directive, and exclusionary, sudden changes are likely to be viewed with suspicion. "What's the hidden agenda?" people want to know.*

The credibility gap works both ways. The requirement that schools use participative models of needs assessment is in part intended to overcome the fact that the educational establishment may be unresponsive to ideas that come from sources that they perceive as having low credibility. Grunig (1972) found that social agencies rarely listen to the poor. Studies on heterophily/homophily have shown that although in certain instances a certain amount of heterophily enhances acceptance of a communication, the discrepancies between source and receiver cannot be too great.

Without a formal communication network or linkage which not only invites but encourages inputs to the system, very few inputs will come from such groups as the poor, the minority groups of all kinds, including students. Needs assessment models seek to actively encourage inputs from such groups, and to change the communication pattern from a one-way flow of information to a circular flow of shared concerns, problem solving, and decision making. Whether in face they do so merits much more study.

Finally, a much-overlooked variable is the management of the process. Few educational administrators have adequate background in communication theory or organizational communication. Most needs assessment models offer little or no guidance on important and often subtle communication variables. Management schemes, when detailed at all, are usually confined to the obvious--size of committees, length of sessions, card-sorting procedures, and the like. When poorly managed, needs assessments are seen as just one more "Band-Aid" applied to an overburdened and malfunctioning system.

Directions for Future Research

There has been almost no research into the communication aspects of participatory modes of goal setting and other needs assessment processes, and the influences of different methodologies on the kind and quality of the resulting policy decisions. We need better paradigms for organizational communication and decision making related to such public entities as school systems. Educational organizations havestrong, hierarchical structures, but are dependent on a flow of energy, including dollars, from outside the system.

*Some interesting guesses by participants are turning up on the field study of ACNAM (Witkin 1974; also Appendix). These range from assuming that the needs assessment is somebody's doctoral study--doctoral studies in the schools are often highly resisted--to the suspicion that it conceals a plot to impose "humanistic" education on an unsuspecting populace!

The "valued targets" of the system must, of necessity, come from outside the system, although in the past this was not really recognized. But the flow of energy has not typically been matched by an adequate flow of information.

Research is needed to establish relationships among the types of organizational structure of a system, the types of needs assessment models used, the types of communication, and the decisions made. What happens in the organizational structure and in its communication networks (both internal and external) when a school system begins to involve the public in participatory goal setting and planning? What changes within the system must take place in order to make the communication exchanges meaningful?

A trend that bears investigation is the opening out of the school "walls" so that the system actually includes much of the community. What new communication and decision-making networks will arise as the participation of the public in policy making changes the locus and nature of the school itself? Such developments as the community school, store-front schools, experience-based career education schools, and the like are taking many students out of traditional education settings and placing them in the community for a major part of their learning.

What has been the effect of new modes of communication on the management style of upper- and middle-school management--and vice versa? Conversely, what has been the effect of organizational development and management training on the communication in needs assessment? Is there a greater readiness to implement more participatory decision making after organizational development?

There is a need for communication audits in local and state educational agencies to establish norms and profiles relating organizational types to communication parameters. In what ways do these differ from business and industrial organizations? What is the impact of permanent school- and district-level citizens advisory committees on internal and external communication flow and on decision-making processes?

Finally, research is needed on cross-cultural communication as it relates to involvement of racial, ethnic, and linguistic minority groups in educational goal setting and planning.

The summer 1973 issue of the Journal of Research and Development in Education was devoted entirely to the subject, "Communicating." W. C. Wolf, Jr., guest editor, stated, "Communication is one of the most overarching, and ironically the least studies and understood of education's persistent and thorny problems." But he continued:

> "Educators no longer take communicating for granted; rather, they have confronted the problem of communicating head-on. . .More people have tackled the problem of communicating within the field of education during the past decade than in the entire previous recorded history of the field. Results are beginning to be felt" (Wolf 1973, 1-2).

That statement may be overly optimistic. Except for portions of one or two articles, most of the writers were concerned with improving the methods of communicating research findings to the practitioner, or of disseminating information on educational innovations--essentially the business of one-way, top-down, informative or instructional communication.

That educational researchers and planners have become aware of the importance of communication is all to the good. But the field for research and theory building in organizational communication is still wide open.

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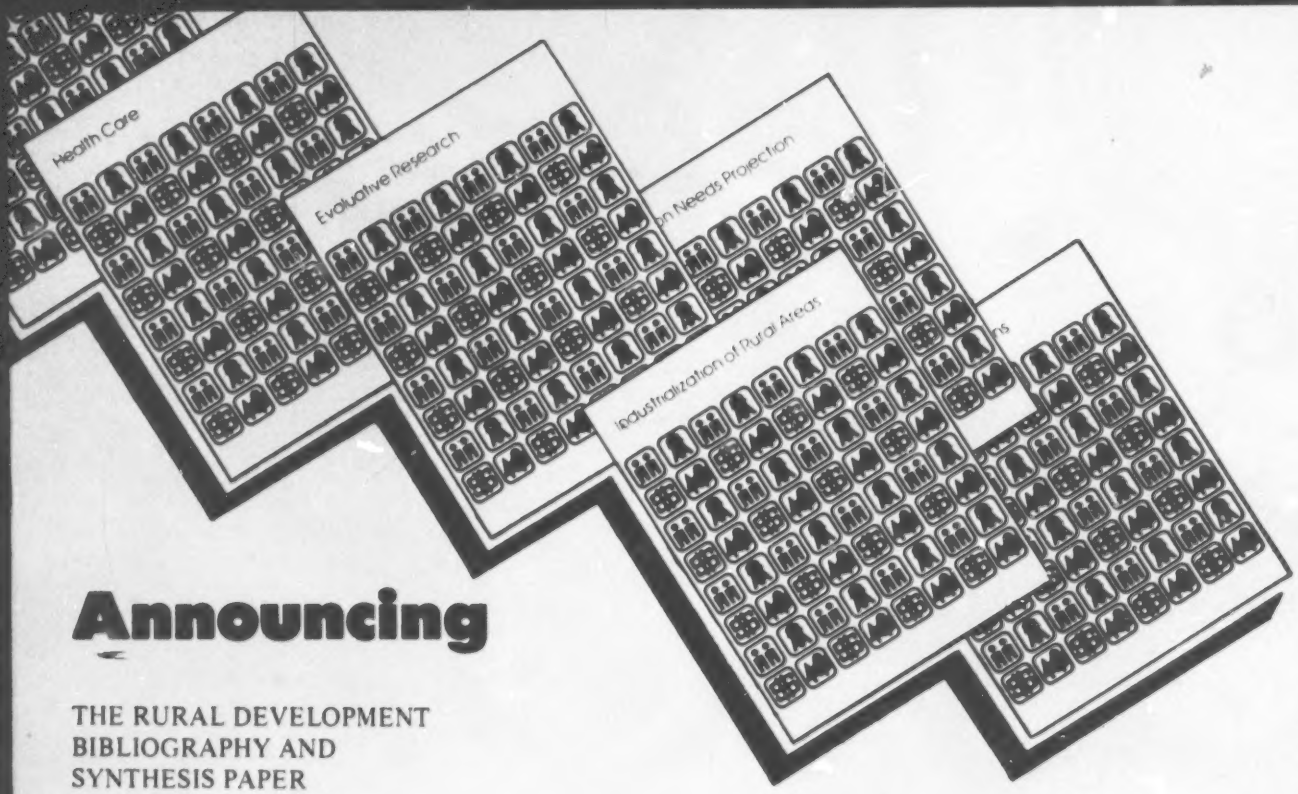

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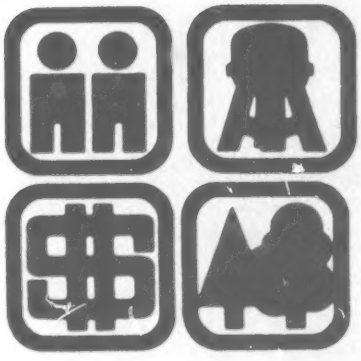

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